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INDIAN MEDICAL ASSOCIATION

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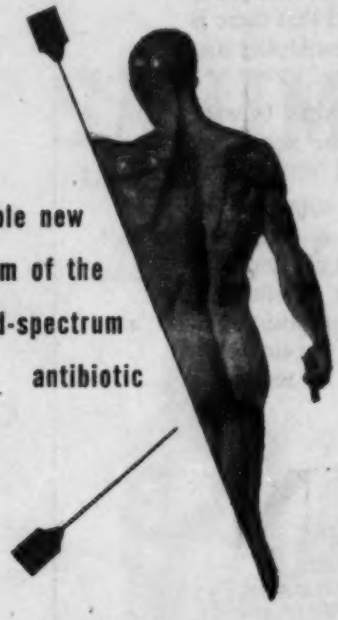

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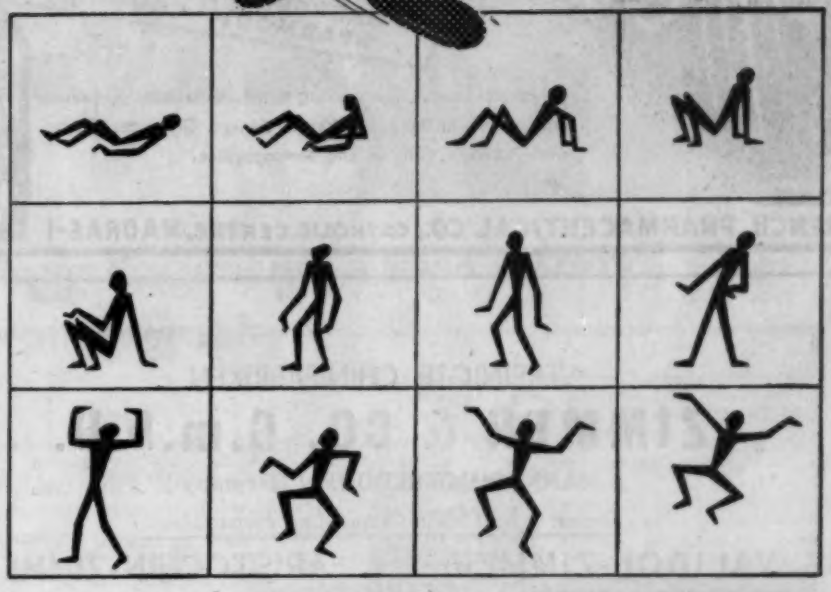

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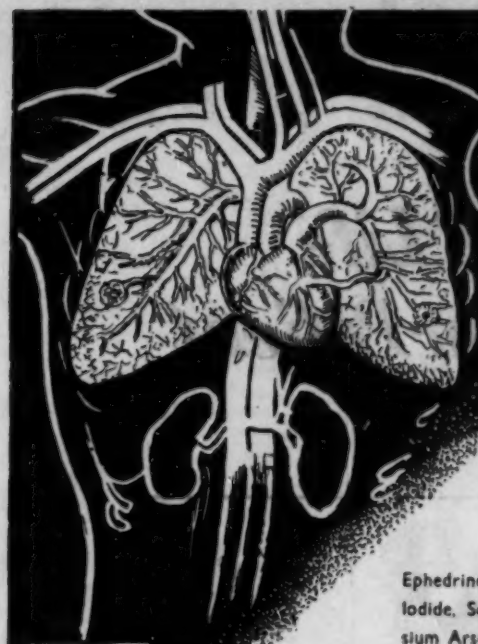

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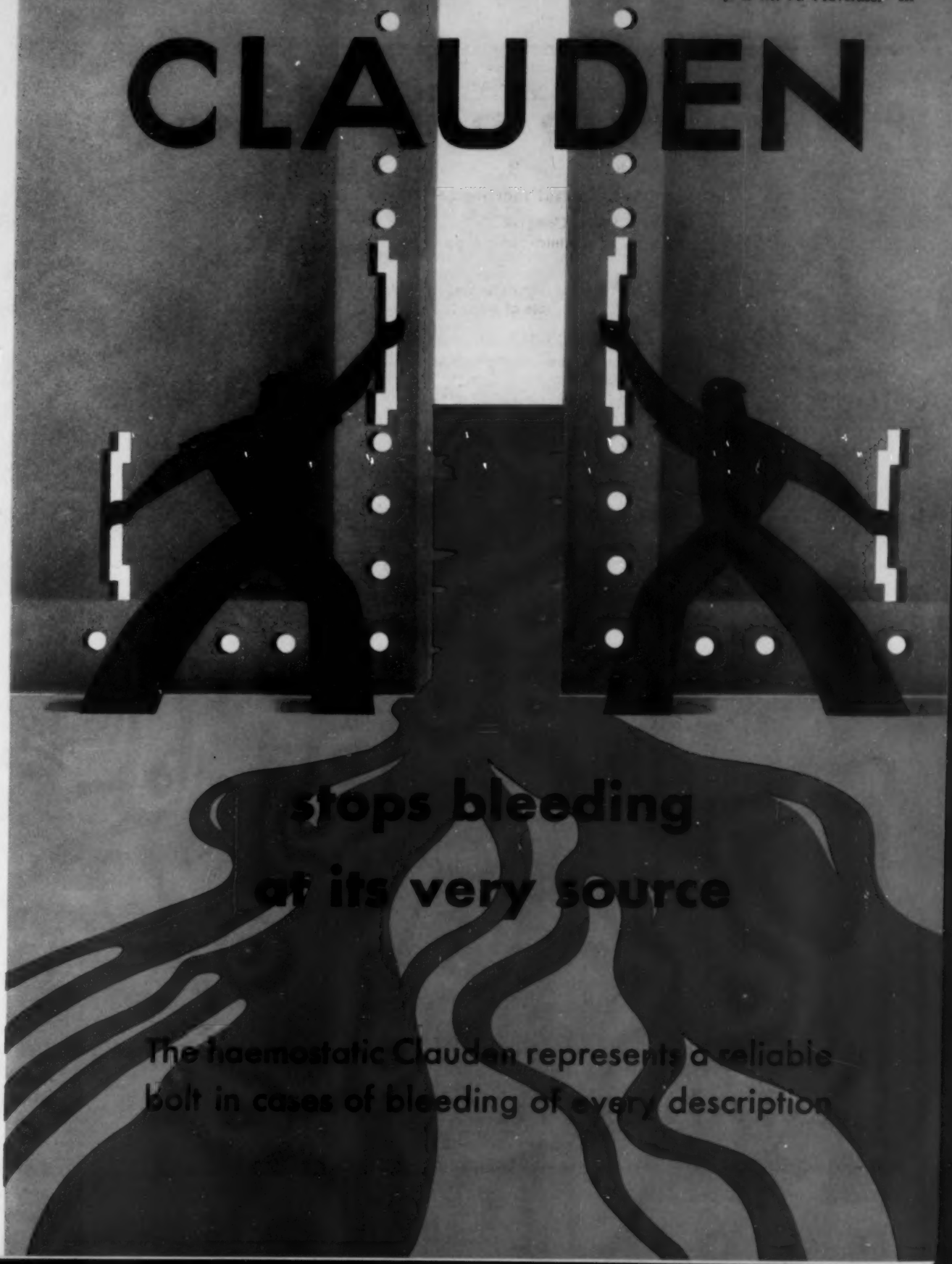

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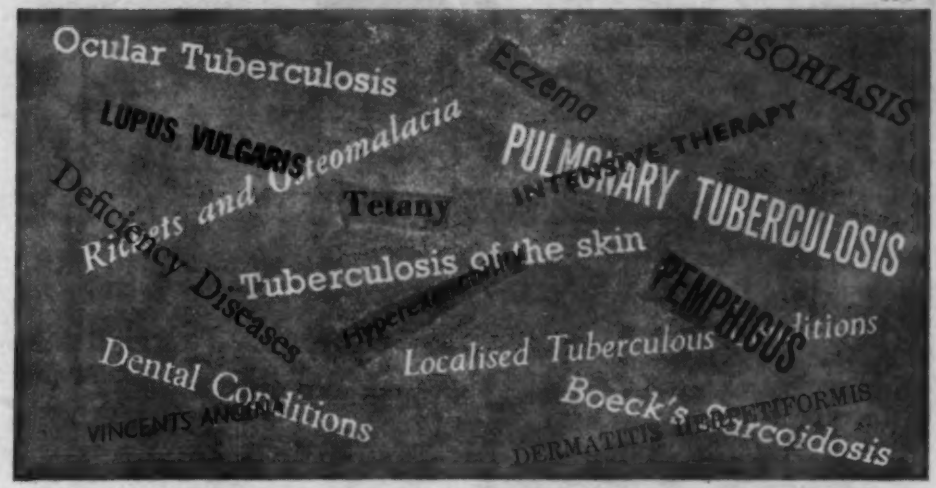

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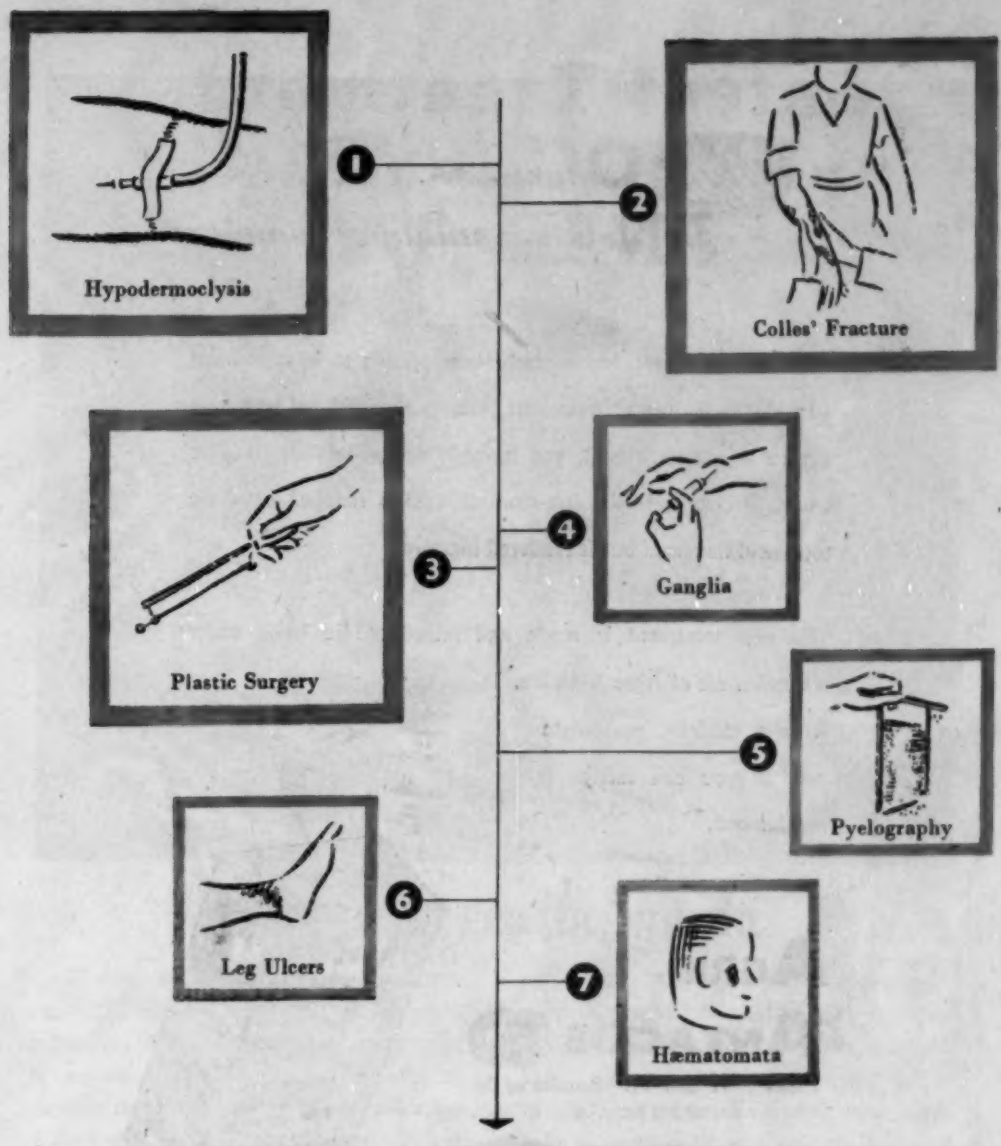

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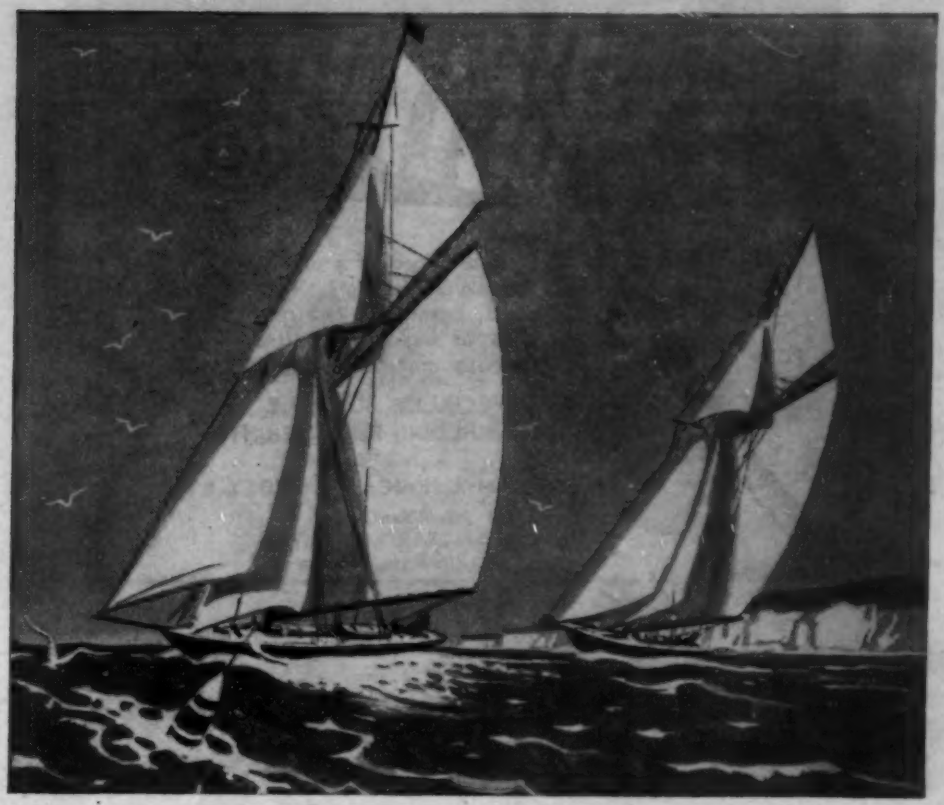

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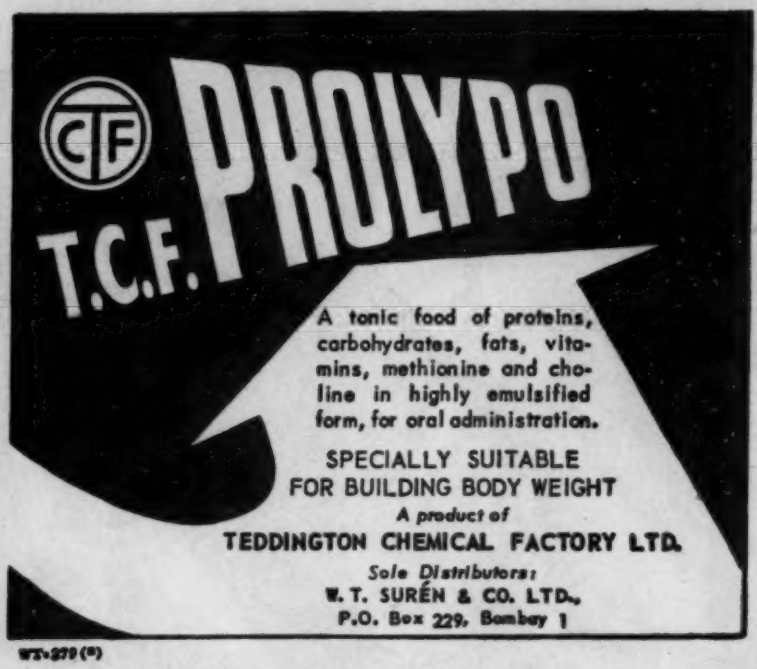
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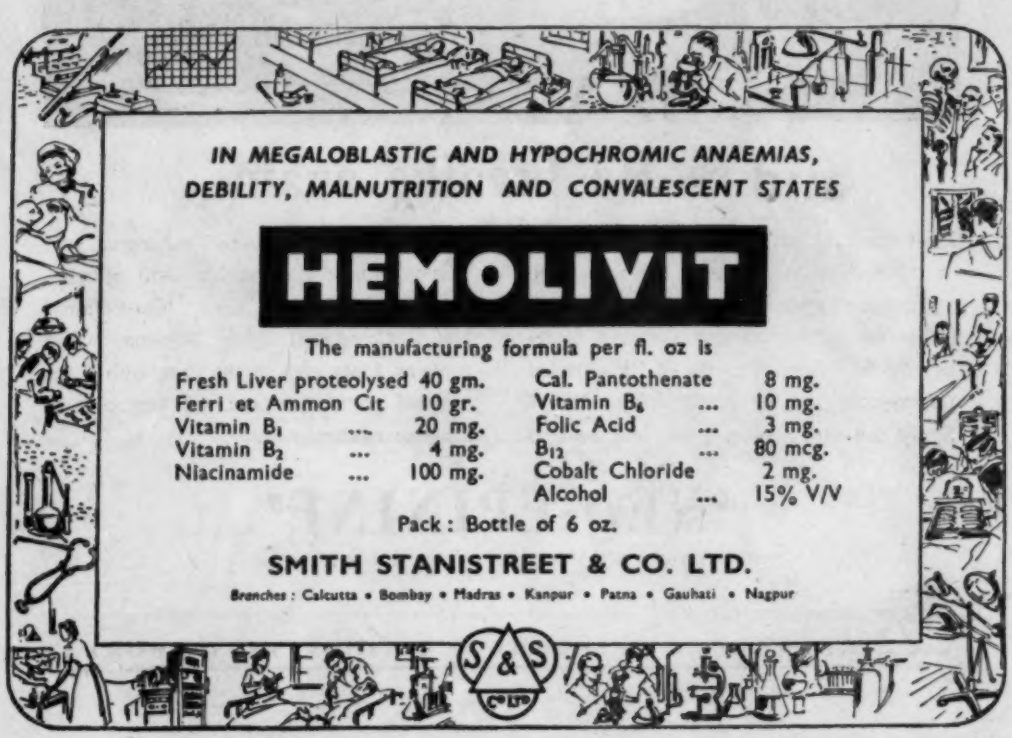
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Journal of the Indian Medical Association

Vol. 24, No. 6 CALCUTTA PUBLISHED TWICE A MONTH December 16, 1954

ORIGINAL ARTICLES

SOME OBSERVATIONS ON DIPHTHERIA IN BOMBAY

J. K. THANAWALA, M.D., F.C.P.S.,

Medical Superintendent, Chief Physician and Lecturer in Infectious Diseases, City Fever Hospital, Bombay.

Diphtheria has been on the increase in the City of Bombay during the last 15 years, as will be evident from the records of admission to the City Fever Hospital, Bombay, during 1932-1952 (Fig. 1). The observations under review are, however, based on 458 cases admitted to the Hospital from 1-7-1952 to 31-12-1952, the diagnosis being confirmed by detection of *C. diphtheriae* either by culture or smear examination. Typing of bacilli was not done.

Age Incidence—The cases under review are analysed under the following age groups (Table 1):

TABLE 1—SHOWING AGE INCIDENCE

Age in years	No. of admissions	No. of deaths
Below 1	61	25
1— 5	225	37
6—10	123	6
11—15	25	—
16—20	6	—
21—25	5	—
26—30	9	—
31—35	2	—
36—40	1	1
41—45	—	—
46—50	—	—
51—55	1	—

The highest incidence was in the age group 1-5 years while the lowest incidence was in the age group of 10 upwards.

Sex Incidence—Of 458 cases, 51 per cent were males and 48 per cent females with a mortality rate of 17·1 per cent and 12·9 per cent respectively.

Seasonal Variation—Admissions to the City Fever Hospital are very high during the months of September and October, the highest being in the month of September—97 cases (Table 2).

TABLE 2—SHOWING MONTHLY ADMISSIONS IN 1952

Month	No. of admissions	Month	No. of admissions
January	72	July	66
February	53	August	70
March	55	September	97
April	49	October	93
May	29	November	78
June	40	December	54

Incidence according to Localities—From Table 3 it can be seen that the people admitted to the hospital for this disease came from Byculla, Girgaum, Mahim and Dadar in the order of the number of admissions. Majority of the people seeking admissions to the City Fever Hospital for diphtheria, are from the middle-class people.

TABLE 3—SHOWING INCIDENCE ACCORDING TO LOCATION

Locality	No. of admissions	Locality	No. of admissions
Fort	29	Tardeo	7
Kalbadevi	6	Parel	29
Girgaum	60	Worli	21
Dongri	49	Dadar	49
Byculla	67	Mahim	57

Mode of Spread—Though the carriers and contacts play a predominant part in the spread of this

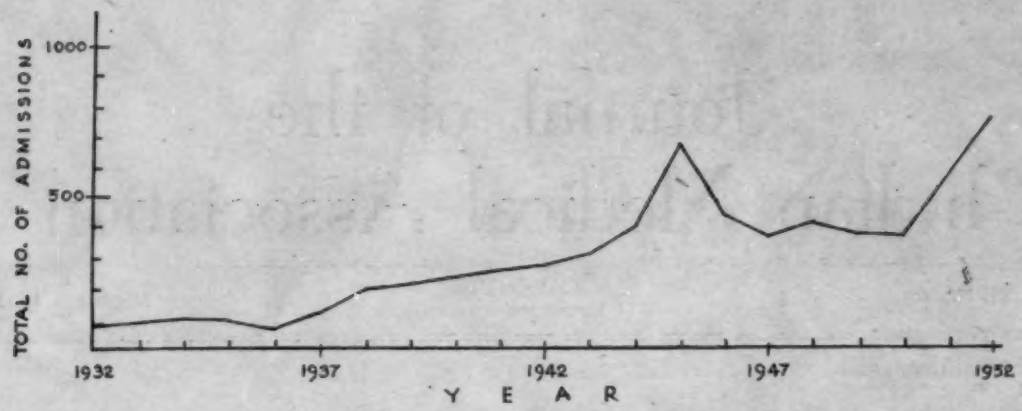

FIG. 1—GRAPH SHOWING TOTAL NUMBER OF CASES ADMITTED TO THE CITY FEVER HOSPITAL, BOMBAY, FROM 1932 TO 1952.

disease, it is strange that the cases admitted did not show two members of the same family being admitted for diphtheria except in the month of December 1952 when 3 cases were admitted from the same family.

Mortality Rate—The average duration of illness before administration of antitoxin, was 4·5 days. Out of 458 cases, 69 died giving a mortality rate of 13·2 per cent. The average duration of illness before administration of antitoxin in fatal cases, was 6·2 days. Out of 69 cases, 64 died within 24 hours of the admission. Excluding these moribund cases, the mortality rate was 1·1 per cent.

TABLE 4—SHOWING NUMBER OF ADMISSIONS AND MORTALITY RATE FROM 1938 TO 1952

Year	No. of admissions	No. of deaths	Case mortality rate (per hundred)	Case mortality rate (per hundred) excluding moribund cases which died in 48 hours
1938 ...	208	53	25·8	—
1939 ...	210	54	28·2	—
1940 ...	221	59	31·0	18·1
1941 ...	251	63	25·1	8·7
1942 ...	278	44	15·7	7·8
1943 ...	334	51	15·2	8·1
1944 ...	400	70	17·5	8·3
1945 ...	670	97	15·4	2·3
1946 ...	422	86	19·45	4·1
1947 ...	369	61	16·5	3·2
1948 ...	418	93	22·2	3·8
1949 ...	389	90	23·1	2·5
1950 ...	384	70	18·2	1·8
1951 ...	509	91	15·9	3·3
1952 ...	756	100	13·2	2·4
1952† ...	458	69	12·9	1·1††

† July to December. †† Died within 24 hours.

These 458 cases have been classified according to the site of the membrane formation (Table 5).

TABLE 5—SHOWING CLASSIFICATION WITH MORTALITY RATE

Type	Total		Mortality rate (per hundred)
	No. of cases	No. of deaths	
Tonsillar	301	8	2·6
Tonsillar and laryngeal	97	51	52·5
Anterior nasal ...	22	—	—
Tonsillar and posterior nasal	12	—	—
Primary laryngeal ...	10	—	—
Tonsillar haemorrhagic	9	9	100
Tonsillar and aural ..	2	—	—
Labial and lingual ...	2	—	—
Tonsillar, laryngeal and posterior nasal ...	1	1	100
Tonsillar and mastoid	1	—	—
Pharyngeal ...	1	—	—
Total ...	458	69	12·9

Tonsils were involved in a majority of the cases. Out of 301 cases of tonsillar diphtheria, both tonsils were involved in 157 cases, left tonsil alone was involved in 91 cases and right one only in 53 cases. It appears that the left tonsil is more frequently involved than the right.

All the tonsillar diphtheria cases admitted, had a temperature which ranged between 99° and 101°F. Majority of the cases had pain during deglutition. In the cases admitted in the early stage, spots were seen on the tonsils while in cases admitted in an advanced stage, membrane was seen, which was firmly adherent in practically all the cases and there was bleeding while trying to remove it.

It was whitish in appearance in a majority of the cases, and in some advanced cases it had a blackish appearance or some black spots on it probably due to haemorrhage. There was inflammation round about the membrane.

97 cases were those of tonsillar and laryngeal type. In these cases, the tonsils were affected first and then the larynx. In these cases, there were symptoms of tonsillar diphtheria in addition to the symptoms of laryngitis. The patients had difficulty in breathing with inspiratory stridor, hoarseness and cough. Out of these 97 cases, 27 had bullneck and 51 proved fatal.

22 cases were of nasal type. All these cases had serosanguinous discharge from the nose, with frank bleeding in some. The membrane was present on the nasal septum, with ulcers round about the nose due to irritating discharge.

There were 12 cases of tonsillar and posterior nasal type. All these 12 cases had serosanguinous discharge from the nose and a membrane on the tonsil. The diagnosis was however confirmed as the nasal and throat swabs were positive for *C. diphtheriae*.

There were 10 cases of primary laryngeal diphtheria. In all these cases, there was hoarseness, inspiratory stridor, restlessness, cough, tachycardia (130 to 140 per minute) and the temperature was between 100° and 102°F. In all these cases, on direct laryngoscopic examination, the membrane was seen on the epiglottis and on the edges of the vocal cords which were swollen and inflamed.

There were 9 cases of tonsillar haemorrhagic type. In all these cases spots of haemorrhage were seen on the membrane as well as on the buccal mucosa. Moreover, petechial haemorrhages were seen on the abdomen and thighs ; the temperature being usually subnormal. All these haemorrhagic cases were, however, fatal.

There were 2 cases of tonsillar and aural type. Both had the membrane on the tonsils and there was a discharge from the ear. On examination of the discharge, *C. diphtheriae* was detected.

Faucial, laryngeal and posterior nasal type : There was 1 case in which membrane was seen on both tonsils and the uvula. Nasal discharge, inspiratory stridor, cough and hoarseness were associated. This case with bullneck was a severe one and the patient died within 24 hours. The duration of illness before admission was 12 days.

Complications

Circulatory failure, paralysis, bronchopneumonia, serum sickness and laryngeal obstruction are some of the complications noted in the cases under review.

Table 6—Showing Type of Complications

Type of complications	No. of cases	No. of deaths
Circulatory failure ...	95	69
Paralysis	87	—
Bronchopneumonia ...	72	47
Serum sickness	45	—
Laryngeal obstruction ...	43	9

Paralysis : Different structures are paralysed as shown in Table 7 :

Table 7—Showing Analysis of Different Structures Paralysed

Type of paralysis	No of cases
Epiglottis	52
Soft palate	32
Oculomotor	2
Hemidiaphragmatic	2
General paralysis	1

All the 52 cases with paralysis of epiglottis, were of tonsillar and laryngeal type.

Out of 32 cases, with paralysis of soft palate, 17 were tonsillar and laryngeal and 15 tonsillar only ; 4 of them were cases of bullneck.

Treatment

General : This consists of absolute rest in bed, high caloric diet and prevention of secondary infection by the use of penicillin and sulfadiazine. All the patients were kept flat on bed without pillow.

Symptomatic : For the relief of symptoms the following treatment was adopted, e.g. rectal paraldehyde in restless cases ; intravenous glucose 12½ per cent to 50 per cent, 20 to 100 c.c. for toxaemia ; oxygen in cases of cyanosis and obstruction and nikethamide and suprarenal cortical extracts as stimulants.

Specific : It was found best to stick to the principle of giving a large and adequate dose of antitoxin at the start, to neutralise the toxin circulating free in the blood stream and also loosely attached to the tissue cells. Experience at this hospital has shown that when a large and adequate dose is given there is no need of repeating the administration of antitoxin any more. During the first three months in nearly 225 cases, at the start a large dose was given and then on every subsequent day, the dose was reduced to half of that on the previous day. This was continued till the patch disappeared. This was however found to be superfluous, for experience proved in the remaining cases

during the last three months of the period under review that a sufficiently large and adequate dose at the start was quite enough and effective and there was no further necessity to repeat the injections.

TABLE 8—SHOWING DOSAGE SCHEDULE OF ANTITOXIN ADMINISTERED

Tonsillar (one)	20,000 units
Tonsillar (both)	30,000 units
Both tonsils and uvula ...	40,000 to 60,000 units
Both tonsils, uvula, pharynx and soft palate ...	60,000 to 1,00,000 units
Tonsillar & laryngeal ...	80,000 to 1,00,000 units
Tonsillar & posterior nasal	60,000 to 1,00,000 units
Cases with bull-neck ...	1,00,000 units at least
Anterior nasal	20,000 units
Primary laryngeal ...	60,000 units

Route of Administration—In cases of diphtheria where there was no history of allergic manifestations either in the patient or in close relatives, the total quantity of antitoxin was given intramuscularly with adrenaline hydrochloride ½ c.c. In severe cases, half of the dose was given intramuscularly with hyalurondidase, while half dose was given intravenously. The intravenous dose was always given half an hour after the intramuscular dose to prevent shock. If there was allergic history, he was desensitised before administering the total dose of antitoxin.

TREATMENT OF COMPLICATIONS :

Circulatory failure—It is combated with complete rest, milk diet, intravenous injection of glucose 50 c.c., 25 per cent twice a day.

Bronchopneumonia—Injection of penicillin is necessary and helpful in bronchopneumonia.

Paralysis—In paralysis injections of vitamin B_1, 100 mg. with strychnine hydrochloride 1/60 grain are used. How far these injections help in the recovery of the case, one cannot say. In case of paralysis of the epiglottis, food was administered by the nasal route. In case of soft palate paralysis, semi-solid food was administered. In case of intercostal or diaphragmatic paralysis, the patient was put into the iron lung.

Serum sickness—Anti-allergic drugs, intravenous calcium and vitamin C were given to control serum sickness.

SUMMARY

Of 458 cases of diphtheria, 69 (12·8 per cent) died. Out of these 69 deaths, 24 deaths occurred within 24 hours of the admission. So excluding these 64 moribund cases, the mortality rate was 1·09 per cent.

Age incidence shows 89 per cent those below 10 years of age.

Males represented 51 per cent and females 49 per cent.

Admissions were high in September-October months.

Frequency of the disease was observed in middle class people.

Antitoxin in adequate dosage was administered at the start in a single dose and there was no necessity of repeating the injection any further.

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MEDIASTINAL EMPHYSEMA AS A COMPLICATION OF THERAPEUTIC PNEUMOPERITONEUM

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The anatomical routes by which air may enter the mediastinum are : (*a*) Direct perforation of the oesophagus, trachea and bronchi into the mediastinum. (*b*) Rupture of alveoli, specially distended ones, into the pulmonary interstitial tissue with dissection along the perivascular and peribronchial sheaths into the mediastinum. (*c*) Air tracking through into the mediastinum from the deep fascial planes of the neck. (*d*) Air tracking through into the mediastinum from the retroperitoneal space. Mediastinal emphysema may be classified into 3 groups : (1) Spontaneous, (2) Artificial and (3) Complicating.

Spontaneous Pneumomediastinum—This may be regarded as a primary disease. For it may take place in an otherwise healthy individual. Circumstances such as forceful expiratory efforts against a closed glottis, specially during violent strain or intense physical exertion, may bring about rupture of some pulmonary alveoli resulting in interstitial pulmonary emphysema. The entrapped air may dissect its way to the pulmonary hilum and then into the mediastinum, producing mediastinal emphysema (Rosenblum and Silverman 1947 ; Silverman *et al*, 1953).

Artificial Pneumomediastinum—This has been used for diagnostic purpose to study the mediastinal contents. This can be induced (1) retrosternally, (2) paratracheally, (3) paravertebrally (at the level of fourth thoracic vertebra), (4) peridurally (at the level of the ninth intervertebral space) and (5) through the retroperitoneal space. According to Condorelli the best route is the transtracheal approach. Pneumomediastinum was well tolerated (Bariety *et al*, 1953).

Complicating Type of Pneumomediastinum

Pneumomediastinum may accidentally happen during surgical operations of the neck, chest or abdomen. During collapse therapy such as A.P., P.P. and phrenic operations its occurrence has been reported. In fact, as complication of artificial (or spontaneous) pneumothorax a considerable number of cases of mediastinal emphysema has been reported.

Mediastinal Emphysema Complicating Therapeutic Pneumoperitoneum

On the whole it is a rare complication. A review of the literature by Peabody *et al* (1953) showed 34 cases of mediastinal emphysema subsequent to artificial pneumoperitoneum. Previously Stein (1951) reported 14 cases of mediastinal emphysema. Tinker (1953) reported one case and stated that prior to her case report only 4 cases had been recorded in the English literature. Presumably Tinker refers to mediastinal emphysema complicating pneumoperitoneum given by the para-umbilical route because, already there appeared in English literature reports of 7 cases of mediastinal emphysema following pneumoperitoneum administered through the intercostal route (Banyai and Jurgens, 1939). Bobrowitz (1953) mentioned two cases of mediastinal emphysema complicating therapeutic pneumoperitoneum. The authors in the course of 12,744 pneumoperitoneum insufflations during 1952-53 encountered two cases of mediastinal emphysema as reported below.

Although rare, mediastinal emphysema may constitute one of the serious accidents of collapse therapy. Lariche described one death due to mediastinal emphysema and asphyxia after phrenic operation (Alexander, 1937). Although therapeutic pneumoperitoneum was not generally in vogue before Banyai (1943) reported 100 cases of pneumoperitoneum. Pneumoperitoneum as cause of mediastinal emphysema received only a passing reference by Jehu and Nissen (1927) who referred to pneumoperitoneum as a diagnostic procedure (Tinker, 1953). Two cases of mediastinal emphysema given by para-umbilical route have been mentioned in detail by Lemaissier *et al* (1950). Their explanations of the events when refills are given by the para-umbilical route are: (1) a very large pneumoperitoneum and severe muscular effort etc. cause a sudden great rise of intraperitoneal pressure and bring about a local rupture of the peritoneum opposite a weak portion of the abdominal wall; particularly the anterior insertion of the diaphragm. (2) An extraperitoneal air pocket formed after extraperitoneal refill strips the peritoneum, and the air therefrom tracks through into the mediastinum.

Diagnosis

Mild cases of mediastinal emphysema following therapeutic pneumoperitoneum may be overlooked. The diagnosis may have to be considered in the case of a patient complaining of substernal discomfort, pain or tightness associated with pain in the back and with stiffness or discomfort in the neck. The following signs should be looked for:

(*a*) Cervical subcutaneous emphysema present in about 75 per cent of cases.

(*b*) Absence of percussion dullness over the precordium.

(*c*) Hamman's sign (Hamman, 1939).

(*d*) X-ray, particularly lateral film showing a column of air ascending up the abdominal side to separate the heart from the sternum. The usual postero-anterior film may show the mediastinal pleura displaced laterally by the air in the mediastinum.

Case Reports

Case I—M.D., Hindu male, 35 years old, was admitted in this hospital on 3-3-52. On admission his condition was as follows: Fever upto 101°F with hoarseness. Sputum—A.F.B. positive. E.S.R. (Westergren) 80 mm. 1st hour, Hb—68 per cent. Total W.B.C. 19,100. Chest skiagram showed extensive bilateral disease with multiple cavitation on both sides, left being the more affected side. He was successively put on chemotherapeutic treatment such as streptomycin, P.A.S., thiosemicarbozone and isoniazid in different combinations without lasting benefit. The patient developed glycosuria after isoniazid treatment, for which insulin had to be administered. Pneumoperitoneum was induced on 10-11-52 and was maintained uneventfully for one month with weekly refills of 600 to 700 c.c. of air, the final pressures ranging from +4 to +10 cm. of water. On 15-12-52 the patient was given a refill of 800 c.c. of air with final pressure +8 +10 cm. of water. About half an hour after the refill the patient complained of epigastric pain and low retrosternal distress which gradually ascended to the neck. Physical examination disclosed surgical emphysema occupying supraclavicular fossae and suprasternal notch, palpable emphysema of the deep anterior abdominal wall and presence of Hamman's sign over the precordium. A lateral skiagram of the chest

(16-12-52) confirmed the diagnosis of mediastinal emphysema (Fig. 1A, *vide* Plate). Within 72 hours the chest findings cleared and the emphysema of the neck was gone. Pneumoperitoneum was subsequently abandoned.

Case 2—A.C., 24 years old, a multiparous woman (last delivery 4 years ago), was admitted on 28-5-52. X-ray of the chest just before admission revealed confluent type of lesion in the left mid-zone as well as towards the base of the left lower zone. Sputum was positive for A.F.B. and E.S.R. (Westergren) was 85 mm. for 1st hour. As to the other laboratory findings there was nothing abnormal except anaemia (Hb 52 per cent) which improved steadily with appropriate treatment (Hb 75 per cent). After a preliminary course of streptomycin and P.A.S. for 2½ months (streptomycin 1 g. bi-weekly and P.A.S. 12 g. daily in divided doses), the lesion retrogressed in the lower zone with abatement of constitutional disturbances. A.P. (left) was induced but the treatment could not be continued for more than 6 weeks for want of free pleural space due to adhesion. On 8-10-52 P.P. was instituted by the para-umbilical route and was maintained by refills, at first weekly but subsequently at an interval of 10 days, the quantity of air insufflated at each refill being 800 c.c. to 1000 c.c., with final pressure ranging from +6 to +14 cm. of water. The patient remained afebrile and asymptomatic and gained 6 lbs. of body weight, the E.S.R. decreasing to 7 mm. for the first hour, the sputum becoming negative for tubercle bacilli (even by culture) and serial skiagrams of the chest disclosing retrogressing lesion.

On 28-8-53 during the 35th refill, as soon as 600 c.c. of air was given the patient complained of epigastric pain which soon extended all over the abdomen and back, tightness of the chest, retrosternal distress and dimness of vision followed by mild degree of shock. Air insufflation was at once stopped and the foot end of the bed was raised and nikethamide 1 ampoule and atropine sulph 1/100 gr were injected. Oxygen was also administered. Later the patient rallied but still complained of dimness of vision (persisting for a day). Physical examination revealed surgical emphysema of the neck and abdomen and also Hamman's ascultatory sign over the precordium. After a few days when the patient's condition permitted, a lateral skiagram of the chest was taken which confirmed the diagnosis of mediastinal emphysema (Fig. 2A, *vide* Plate). In 10 days' time all the signs disappeared. Pneumoperitoneum was abandoned after the incident.

Discussion

The occurrence of mediastinal emphysema in the abovementioned cases present points of similarity. In both the cases the incidents followed pneumoperitoneum refills and not pneumoperitoneum induction. In Case 1 pneumoperitoneum was of one month's standing before the development of mediastinal emphysema whereas in Case 2 the incident occurred much later. Thus, the idea of existence of a persisting congenital opening between peritoneal cavity and mediastinum cannot be entertained. According to some workers, occasionally mediastinal emphysema may follow accidental or spontaneous pneumothorax subsequent to or irrespective of pneumoperitoneum and according to Deacon (1954) congenital pleuroperitoneal opening may occasionally exist. But in our cases, neither of the conditions (accidental or spontaneous pneumothorax and congenital pleuroperitoneal opening) can be substantiated for lack of evidence. Anatomically there are some vulnerable sites constituting potential sources of communication between mediastinum on the one hand and peritoneal cavity or extraperitoneal air pocket on the other. These are (1) the different hiati in the diaphragm for vessels, nerves and the oesophagus. (2) Foramina of Morgagni or Larrey's spaces which are sites of fusion of embryonic diaphragmatic elements and are situated on either side of the xiphoid process (Vysniauskas *et al*, 1953). (3) The existence in the anterior abdominal wall of an anatomical pathway formed by the continuity between the transversus abdominis muscle and diaphragm. If air is introduced superficial to the transversus muscles, it may extend up over the superior surface of the diaphragm to gain entrance into the mediastinum (Peabody *et al*, 1953). While any one of the above vulnerable sites may account for passage of air into the mediastinum, it is our suggestion that the development of mediastinal emphysema in our two cases can be accounted for by taking into consideration the existence in the anterior abdominal wall of this anatomical pathway formed by the continuity between the transversus abdominis muscle and the diaphragm: because, in both the cases we found the following:

(*a*) Evidences of deep surgical emphysema in the anterior abdominal walls as shown in the lateral skiagrams (Fig. 1A, and 2A, *vide* Plate).

(*b*) Physical examinations revealed surgical emphysema of the anterior abdominal walls.

(*c*) No air could be discerned in the peritoneal cavities in the straight skiagrams (PA. view, Figs. 1B and 2B, *vide* Plate) suggesting that through inadvertence the refills (800 c.c. in Case 1 and 600 c.c in Case 2) given on the days of incidents, had been mostly extraperitoneal.

(*d*) The initial pressures during refills were nil i.e. no initial manometric response was obtained.

Had the refills been given intraperitoneally, passage of air from peritoneal cavity into the mediastinum *via* foramina of Morgagni would have been possible if there were high intraperitoneal pressure to account for the rupture of the peritoneum between the sternal and costal attachments of the diaphragm. But the final pressures

Fig. 1A—Left lateral view.

Fig. 2A—Left lateral view.

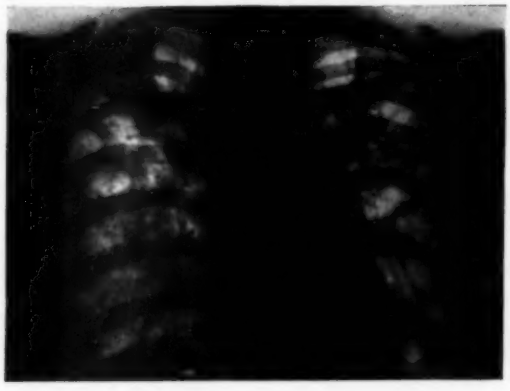

Fig. 1B—P. A. view.

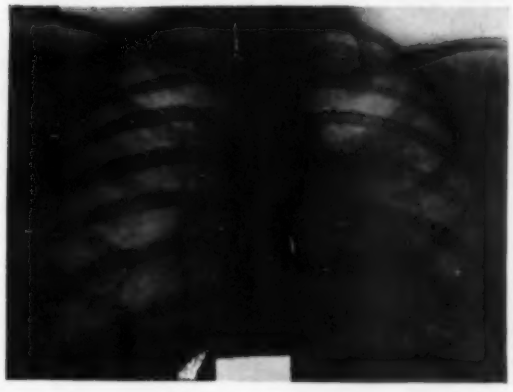

Fig. 2B—P. A. view.

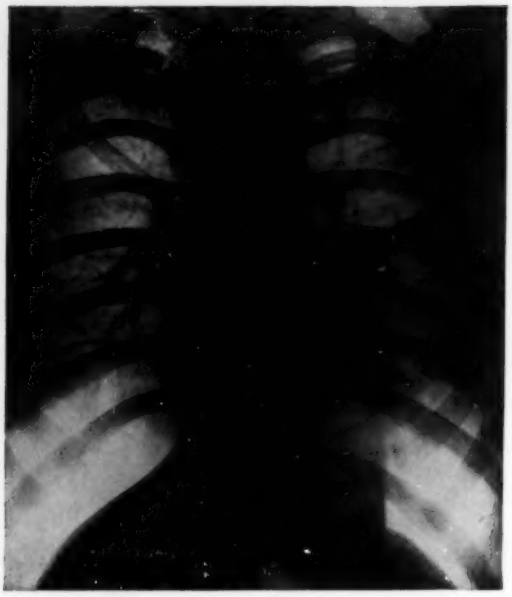

Fig. 1A (Case 1)—P. P. only.

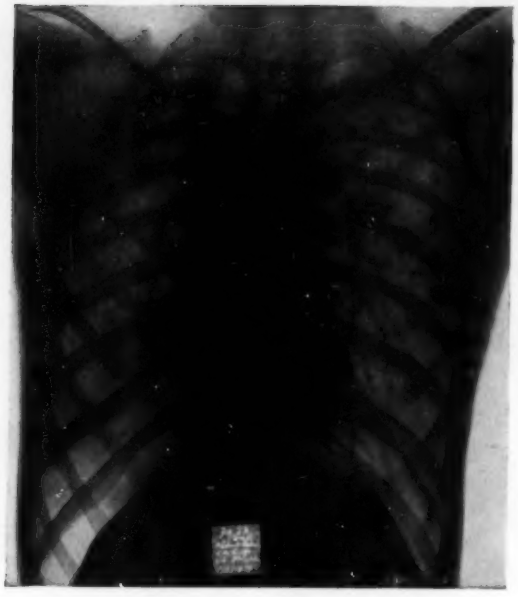

Fig. 2A (Case 2)—Bilateral lesions in the lungs with P. P.

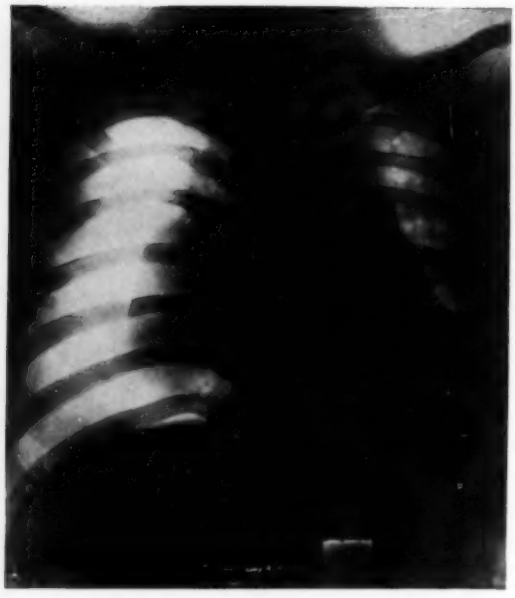

Fig. 1B (Case 1)—Pneumothorax (right).

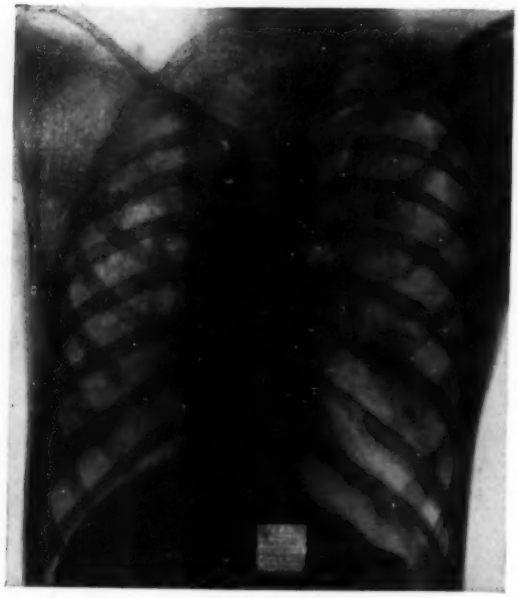

Fig. 2B (Case 2)—Spontaneous Pneumothorax (left).

recorded in the cases were not at all high (+8 +10 in Case 1 and +6 +8 in Case 2). In Case 1 the incident was a mild one, occurring half an hour after the completion of the refill. But in Case 2 the incident happened while refill was in progress and the occurrence was sudden and severe exhibiting dimness of vision and culminating in shock of a mild degree. These ambiguous symptoms (dimness of vision and shock) in mediastinal emphysema can be explained, if air embolism occurs simultaneously with mediastinal emphysema. Although no ophthalmoscopic examination was made by us, it is our suggestion that the trend of symptoms encountered in Case 2 warrant the diagnosis of combined mediastinal emphysema and air embolism (mild degree). Cases of this combination (mediastinal emphysema and air embolism) have been reported by other workers (Hyde *et al*, 1950). The mode of occurrence of air embolism in pneumoperitoneum can be explained according to Simmonds' suggestion that a likely route is *via* the abdominal segmental veins to the vertebral plexus of veins and so to the intracranial sinuses (Simmonds, 1946).

Although mediastinal emphysema complicating therapeutic pneumoperitoneum is not an absolute contra-indication for the subsequent continuation of pneumoperitoneum treatment we did not continue the treatment in our above-mentioned cases subsequent to the occurrence of mediastinal emphysema: because, in Case I, as his skiagram will show (Figs. 1A and 1B, *vide* Plate) there was inadequate functionating area of the lungs causing respiratory distress and great discomfort subsequent to pneumoperitoneum refills. In fact, this patient died from the after-effect of spontaneous pneumothorax of the left side occurring on 11-9-53. As regards Case 2, in view of our suspecting air embolism in combination with mediastinal emphysema, we thought better not to continue the pneumoperitoneum treatment. The patient after improving with chemotherapy is since awaiting major surgical interference. It may not be out of place to mention that mediastinal emphysema (complicating pneumoperitoneum treatment) in most cases clears up spontaneously with bed rest and that there is usually no contraindication for continuing pneumoperitoneum refills after its subsidence. Rarely the increased pressure in the mediastinum may cause cyanosis, dyspnoea, weak pulse and a serious decline in blood pressure for which emergency measures may have to be adopted (Silverman *et al*, 1953).

Summary

Various types of mediastinal emphysema have been discussed. The literature has been reviewed with particular reference to its being encountered in therapeutic pneumoperitoneum. Two cases are presented to show the occurrence of mediastinal emphysema subsequent to pneumoperitoneum refills.

Of the various anatomical routes favouring passage of air from the peritoneal cavity (or from the extraperitoneal air pocket) to the mediastinum, the writers consider as applicable to their cases the existence in the anterior abdominal wall of the pathway formed by the continuity between the transversus abdominis muscle and the diaphragm.

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TREATMENT OF WHOOPING COUGH WITH CHLORAMPHENICOL

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Whooping cough is a very troublesome and exhausting disease of childhood and chloramphenicol has been reported to be useful in this condition. Efficacy of this antibiotic was investigated on 25 patients of whooping cough at the V. J. Hospital, Amritsar, and is reported below.

Selection of Cases

The cases were selected on the basis of the following factors:—(*i*) typical clinical picture of whooping cough such as demonstrable paroxysms with 'whoop', (*ii*) paroxysms culminating in vomiting; (*iii*) history of similar disease amongst other members of the family or in the neighbourhood.

Age Incidence—All the cases were within 10 years of age excluding one of 24 years (Table 1).

Table 1—Age Incidence in 25 Cases

Age	No. of patients	Age	No. of patients
Below 6 months	1	Over 3 years	2
Over 6 months	1	Over 4 years	6
Over 1 year	5	5-10 years	5
Over 2 years	4	24 years	1

Sex—Of the 25 cases in this group, 22 were male and 3 female.

Duration of Illness:—Table 2 shows the duration of illness at the time of commencement of chloramphenicol therapy.

Table 2—Duration of Illness in 25 Cases

Duration	No. of patients	Duration	No. of patients
Upto 1 week	1	Upto 8 weeks	2
Upto 2 weeks	nil	Upto 12 weeks	2
Upto 3 weeks	11	Over 12 weeks	1
Upto 4 weeks	1	Not noted	5
Upto 6 weeks	2		

Laboratory Investigation—Culture of *H. pertussis* by cough plate method and initial total and differential count were done in 21 cases. The latter investigation was repeated after completion of 14 days' course of chloramphenicol. The culture was negative in all the cases.

Dosage of Chloramphenicol

The antibiotic was used in the form of capsules (250 mg.) and only in one case in the liquid form (as palmitate), because the capsules were not tolerated. The content of the capsules were divided into suitable doses, on the basis of adult daily dose of 8 capsules a day during the first week and 6 capsules a day during the second week. No other drugs were given. After 14 days' therapy, for those cases who were not relieved completely, the treatment was switched over to other antispasmodics and sedative mixture.

Results—In 7 cases, there was complete relief with disappearance of all the signs and symptoms. In 17 cases there was partial relief where paroxysms disappeared along with whoop and vomiting but some cough persisted.

One case was intolerant to the drug and could not be followed.

Period after institution of therapy when relief started—Table 3 shows the number of patients relieved of symptoms in relation to day of therapy.

Table 3

Day of therapy	No. of patients	Day of therapy	No. of patients
1st	—	5th	3
2nd	4	6th	1
3rd	6	8th	1
4th	6	Not noted	4

Relapses—Relapses occurred in 4 cases 1 to 4 weeks after cessation of chloramphenicol therapy. Two of these cases were given a second course of therapy, for 1 and 2 weeks respectively, with complete relief in one and partial relief in the second case.

Toxicity—1. Vomiting after taking the drug was complained of in six cases. Out of these cases chloramphenicol therapy had to be interrupted in one case because he could not tolerate it in any form. The remaining 5 cases could tolerate the drug when it was given mixed with a little amount of honey or sweetened milk.

2. Flatulence and diarrhoea—This was complained of only by one case. It was not severe and did not interfere with continuation of the therapy for a complete course of 14 days.

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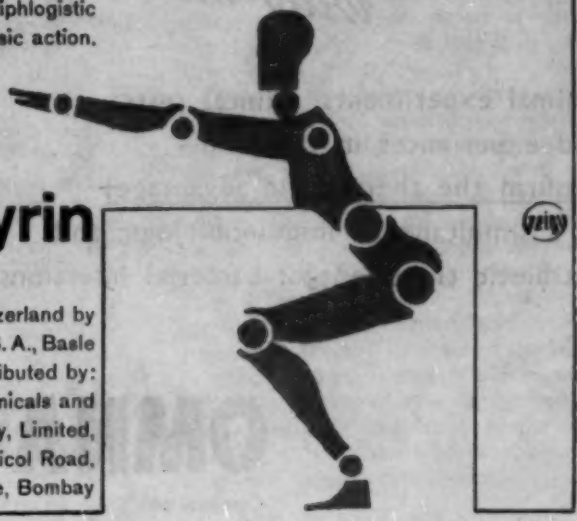

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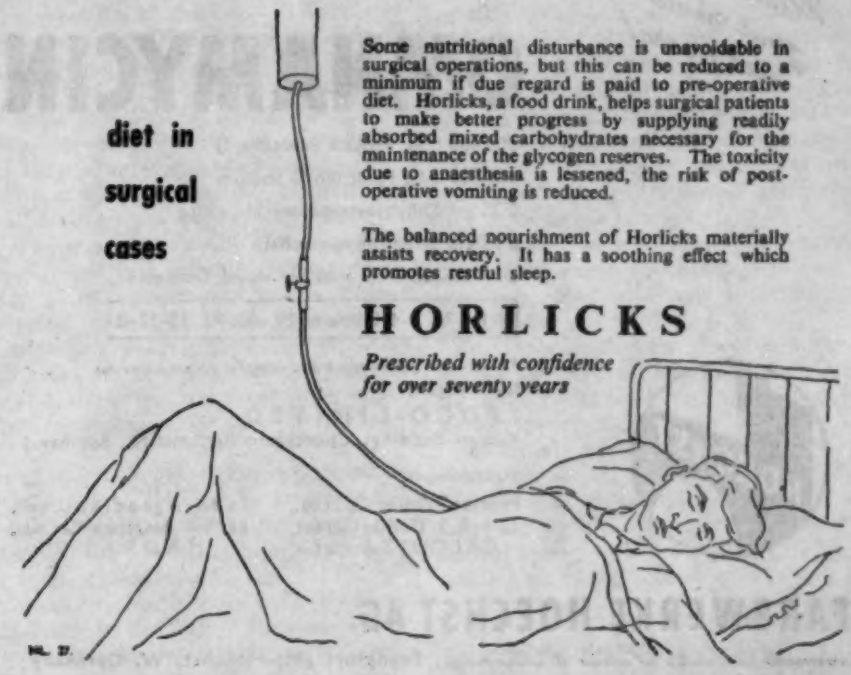

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Effect on leucocytic count—Of the 21 cases where leucocytic counts were made, 16 cases had the count above 10,000 per c.mm. and 5 cases had it below 10,000 per c.mm. In 12 out of these 21 cases, there was a fall in the total leucocytic count after 14 days' chloramphenicol therapy. The details are given in Table 4.

TABLE 4

Case No.	Initial counts			Final counts		
	Total	Poly	Lympho	Total	Poly	Lympho
6 ...	8,300	2,075	5,810	6,100	2,135	3,782
8 ...	10,750	3,870	6,342	8,100	3,321	4,698
10 ...	11,800	2,832	8,614	8,100	2,430	5,508
12 ...	17,250	3,795	12,212	6,800	2,516	3,944
13 (adult)	8,500	6,120	2,040	7,200	5,400	1,728
18 ...	12,500	3,125	8,750	8,900	4,450	4,272
19 ...	9,500	6,745	2,470	7,600	5,700	1,900
20 ...	10,500	6,825	3,360	7,500	4,725	2,625
21 ...	14,000	10,920	2,800	8,500	5,100	2,975
22 ...	5,600	1,848	3,472	5,000	2,000	2,950
24 ...	11,400	5,700	5,244	9,100	4,550	3,822
25 ...	12,150	6,439	4,739	9,100	4,914	3,458

DISCUSSION

Although the cough plate cultures were negative for *H. pertussis*, yet the clinical picture in all the cases was so typical that it left no doubt about the diagnosis of whooping cough. Seven cases were completely relieved, but one case relapsed two weeks after cessation of therapy. The relapse was practically of the same intensity as the initial attack, except for the fact that there was no whoop.

Of the 17 cases who showed partial relief, all patients showed some abatement of symptoms either in the form of disappearance of vomiting or diminution of intensity of paroxysms or increase in the interval between the paroxysms. Except for one case, who was intolerant to the drug, all the cases showed relief to a variable degree, proving the efficacy of chloramphenicol in the treatment of whooping cough. Twelve cases with partial relief were put on antispasmodic sedative mixture. Four cases out of these were completely relieved after 1-2 weeks of treatment with this mixture. The remaining also showed marked improvement.

Persistence of cough, in those cases which were marked "partially relieved" could be largely due to irritation as a sequela of whooping cough in some cases and in others as an emotional phenomenon in the form of cough habit.

Regarding toxicity, only one case showed intestinal disturbance in the way of flatulence and diarrhoea. Out of six cases, marked under the heading, "vomiting" one was discarded being intolerant. In the remaining patients vomiting stopped when the drug was given with a little honey or a small quantity of sweetened milk. The very fact that these patients started retaining the drug, when given with honey or sweetened milk, would definitely suggest that it did not have any direct emetic effect.

Reports have appeared mentioning agranulocytosis as a result of chloramphenicol administration. From Table 4 it would appear that the absolute polymorphonuclear and lymphocytic counts after the therapy, as compared to initial counts, recorded a considerable fall but not below the respective absolute minimum normal figures either in the case of polymorphs or lymphocytes. Thus it may be said that chloramphenicol did not cause leucopenia or agranulocytosis after 14 days' continuous therapy in doses as used in this series.

Neither of the two cases who received a second 1-2 weeks' course of chloramphenicol for a relapse two weeks after completion of the initial course, recorded any reactions by way of any abnormal symptoms or leucocytic counts.

SUMMARY

1. Twenty-five cases of whooping cough, diagnosed clinically, were treated with chloramphenicol.

2. All cough plate cultures were negative.

3. One case was intolerant to the drug. Out of the remaining 24 cases, 7 recorded complete improvement; 17 showed partial improvement with abatement of whoop, flushing of face and vomiting or diminution of severity and prolongation of intervals between paroxysms of cough.

4. Four out of the 17 cases, marked "partially improved", completely got over the disease with subsequent administration of antispasmodic sedative expertorant mixture.

5. There were 4 relapses. A course of chloramphenicol therapy was repeated in two cases, with complete relief in one and partial relief in the second case.

6. Only two cases recorded toxic reactions; one in the way of flatulence and diarrhoea, and the second was intolerant to the drug which consequently had to be given up.

7. Total polymorphonuclear and lymphocytic counts did record a considerable fall after 14 days' therapy with chloramphenicol but in none of the cases did these reach below the absolute minimum normal levels, with doses of 2 g. in the first week and 1·5 g. in the second week.

ACKNOWLEDGMENT

Thanks are due to Messrs. Ranbaxy & Co. Ltd. for the supply of chloramphenical (Synthomycetin).

REFRESHER COURSE

INTESTINAL OBSTRUCTION —DIAGNOSIS AND MANAGEMENT

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Intestinal obstruction is a serious condition and is a common cause of death in acute abdomen. Its correct diagnosis and management are essential and the general practitioner is most concerned in the early diagnosis of such cases. In the following pages stress is laid on early diagnosis and management.

The terms intestinal obstruction, ileus, intestinal stasis, occlusion of the bowel, are all used for the condition which denotes any interference with the progression of the intestinal peristaltic movement. The patient's attention is always drawn to one important symptom and that is inability to pass flatus and often faeces Inability to pass flatus is much more important.

VARIETIES

There are two important varieties: (A) Mechanical (strangulated, non-strangulated). (B) Nervous (paralytic ileus). There is a third variety which is rare and is due to vascular obstruction without mechanical factor. In the mechanical variety, the two groups—strangulated and non-strangulated—are to be differentiated. This differentiation is of great importance because the treatment and prognosis vary greatly.

(A) MECHANICAL

(1) *Strangulation*—The commonest type of intestinal obstruction is seen in the common external herniae which are obstructed or strangulated. It is essential that the hernial regions —inguinal, femoral, umbilical—must be examined as a routine in all cases suspected of intestinal obstruction.

(2) *Volvulus*—This is commonly seen in our country as volvulus of the sigmoid, but volvulus can occur also in the small intestines and in the caecum. In volvulus when the twist is sufficiently tight there will be vascular obstruction and then such a condition will become the strangulated variety of obstruction. The change-over from non-strangulated to strangulated condition may not be obvious.

(3) *Adhesions*—These are often the result of previous operation and may be termed post-operative adhesions, but there is quite a number of cases where inflammatory conditions have subsided, particularly as a result of treatment by modern antibiotics and chemotherapeutics but have left behind sufficiently strong adhesions to cause intestinal obstruction. These are post-inflammatory adhesions. In rare instances, congenital adhesions and membranes can also contribute to intestinal obstruction.

(4) *Intussusception*—This is a term which is used when a portion of bowel gets invaginated into the next successive portion. Cases of this type are usually seen starting at the caecum and invaginating a portion of the caecum into the next portion of the caecum and ascending colon and pulling up the ileum into the colon. It is called ileocolic intussusception, but its commencement is always in the caecum and so the start is really caecocaecal. In the adult type of intussusception, a tumour-like polyp or an amoeboma may be the usual cause. But in children, often no obvious cause is detected. The variety seen in children is usually much more acute than that seen in adults. Although in the beginning vascular obstructions may not be present, if intussusception is unreduced it ends in not only intestinal obstruction but also intestinal strangulation.

(5) *Ulceration and Stenosis*—These are mainly of two varieties.

(*i*) The tuberculous ulceration seen mostly in the lower ileum and caecum, and

(*ii*) the malignant ulceration seen in the left half of the colon as an annular type of growth, and in the right half of the colon as a proliferating type of growth.

(6) *Obstruction within the Lumen*—Agencies as matted round-worms, foreign bodies, gallstones are all not uncommon; particularly in children the possibility of matted worms should be thought of.

(7) *Pressure on the Intestines*—Massive growths which press upon the bowel from without may cause intestinal obstruction. A few examples of these will be given.

(8) *Congenital abnormalities* such as maldevelopment of rectum with resulting imperforate anus; obstructions caused by Meckel's diverticulum which may act as a band or produce ileo-ileal intussusception and obstructions caused by volvulus of malrotated or unfixed bowel also have to be remembered.

(B) NERVOUS ORIGIN

(1) *Adynamic or Paralytic Ileus*—This is a very common cause of intestinal obstruction and it is

more easy to prevent than treat when it develops. It is almost a constant accompaniment to a mild degree in every abdominal operation and an almost unavoidable complication in case of peritonitis.

(C) *Vascular Obstruction* (without any mechanical factors involved) is seen in mesenteric thrombosis and embolus. These are comparatively rare conditions but when they develop, the prognosis is unpredictable and often very serious. They are to be suspected when sudden and severe abdominal pain develops with symptoms of intestinal obstruction in persons with some heart lesions, with poor circulation, and with thromboangiitis obliterans or possibility of thrombus or embolus in some part of the body.

Diagnosis

These are based on symptoms and physical findings; the most important symptoms are: (1) colicky pain; (2) vomiting, and (3) distension. Among the physical findings one has to make sure of the area of distension, visible peristalsis, rigidity, tenderness, lump and free fluid. The general condition of the patient has to be assessed by recording half-hourly the pulse rate and the blood pressure and making a note of the condition of dehydration. A rectal examination is always essential in every case of suspected intestinal obstruction. Enema tests are important to be sure whether the patient passes flatus or not. Among the accessory aids, a plain skiagram of the abdomen wherever possible will be of use. In a plain film, gas in the bowel with a horizontal fluid level in one or more segments is always a sure sign of intestinal obstruction.

In this connection one should differentiate intestinal obstruction from other causes of acute abdomen, locate the cause of the obstruction with reference to the site of the bowel involved, determine whether the obstruction is of mechanical variety or of the strangulated type, and assess the general condition of the patient and the necessity for surgical measures.

All acute abdomens can be classified under 4 categories: (*i*) Perforative lesion, (*ii*) inflammatory lesion, (*iii*) obstructive lesion, and (*iv*) colics. Perforative lesions show well marked rigidity of the abdomen. Inflammatory lesions show marked tenderness in an area which is referable to the site of the inflamed organ and the rigidity will be localised. In obstructive lesions in the majority there will be a variable amount of distension of the abdomen with very little rigidity and almost no tenderness except in the strangulated variety of mechanical obstruction. In the colics, except in the intestinal colic which is the symptom of intestinal obstruction, the other colics like renal and biliary colics have got very characteristic physical features, e.g., in renal colic pain is referred from the loin to the groin, and in biliary colic pain is felt in the right hypochondrium and referred to the right shoulder. Colicky pains are usually relieved by pressure, whereas pain of intestinal obstruction or other varieties of acute abdomen are not relieved by pressure and the patients prefer to be still because any movement aggravates the pain. In bowel obstruction, three clinical varieties can be distinguished: Upper small bowel obstruction where distension is not appreciable, vomiting is incessant and collapse is great—mistaken for cholera. Low small bowel obstruction where distension will be more central and flanks empty; vomiting is present after some delay; collapse is also delayed. Visible coils of intestines with peristaltic waves may be noted. In large bowel obstruction, the abdomen is uniformly distended (including the flanks), vomiting is very late or absent, and when it starts it is often faecal-smelling. Collapse also is very late to begin but is almost uncontrolable when it does begin.

In diagnosis listening to the abdomen gives clue to the cause of obstruction. One can eliminate paralytic ileus because intestinal sounds will not be heard, whereas in mechanical variety, loud grumbling noises will be heard. The real difficulty arises in distinguishing between strangulated and non-strangulated varieties. For this, treatment must be started as if it is a non-strangulated variety. If the condition does not improve it must be presumed to be a strangulated one. Of course this remark applies only to cases after external herniae have been excluded.

Except the strangulated variety, all others should be watched, decompressed, rehydrated and then operated on. In the strangulated variety, of course, early operation with all methods of resuscitation will be necessary.

By the measures mentioned above, one can come to a reasonable conclusion of the existence of intestinal obstruction and often the probable cause also can be suspected. Certain conditions simulate intestinal obstructions: all these must be excluded.

(1) *Acute dilatation of the stomach* is easily excluded by passing a Ryle's tube. Copious flow of thin fluid from the stomach and the distension of the abdomen subsiding will surely differentiate.

(2) *Uraemia* may be a late result of intestinal obstruction and it confuses the picture. Therefore it is a little difficult to be sure. When there are signs of mechanical obstruction there is no

great difficulty but in the case of paralytic ileus there is considerable difficulty to differentiate.

(3) Presence of plenty of *acetone in the urine*, particularly in the diabetic patient, also produces sometimes symptoms of intestinal obstruction which should be remembered.

(4) *Syphilis* in its late manifestations may sometimes produce intestinal inactivity and obstructive symptoms may be simulated.

(5) *Cholera* has been already mentioned as simulating a high small bowel obstruction.

Management

The general practitioner when he is faced with a case of intestinal obstruction can start the management of such cases by introducing a Ryle's tube through the nose and passing it into the stomach. The Ryle's tube in the stomach helps in emptying the stomach and when there is a distended intestine the contents of the intestine will flow into the empty stomach. By leaving the Ryle's tube and effecting continuous aspiration, a considerable intestinal decompression can be achieved in the course of a short time. This will greatly lessen the toxaemia and decrease the chances of strangulation of the bowel. Ryle's tube can well be substituted for Miller-Abbott's tube. The latter is difficult to pass in a seriously ill patient.

Most of the patients coming for treatment of intestinal obstruction are markedly dehydrated. Continuous I.V. 5 per cent glucose saline drip at the rate of 40 drops per minute should be given—4-5 pints daily for an adult.

After a rectal examination, if no growth is palpable a soap and water enema followed one hour later by another enema should be given and watched for passage of flatus.

During this period by noting the B.P. and the pulse of the patient and the way in which he progresses it can be decided whether the case requires early operation or not. If he requires early operation as may sometimes be the case, he can be transported on a stretcher with the I.V. saline running and Ryle's tube *in situ*. The further problems of dealing with intestinal obstructions will fall into detailed surgical planning. If strangulation is suspected or is almost certain, early surgery is essential. In the case of non-strangulated varieties, delayed surgery is welcome if condition of the patient shows satisfactory improvement, otherwise such cases also should be operated on. It is not within the scope of this article to go into details of the surgical management but a brief idea is essential to make the practitioners appreciate what it is that is aimed at and what it is that they can do if they have sufficient equipment and help.

In case of obstructed or strangulated external herniae it is most important to release strangulation. Local anaesthesia is quite sufficient (½ per cent novocaine). In fact any other anaesthesia may be risky in bad cases. When the sac is opened, the haemorrhagic inflammatory fluid must be allowed to drain away before constriction is released. Loop of intestines must be drawn out gently after release of strangulation and inspected for ring necrosis at the site of strangulation. If intestine is definitely gangrenous it should be exteriorised. If viability is doubtful then also it must be exteriorised. Small patches of gangrene can be infolded. In some instances if the infolding produces a narrowing of the lumen, lateral anastomosis can be performed, but it is always a wise plan to avoid resections as far as possible in cases of strangulated herniae.

In many cases of volvulus, untwisting is all that is necessary and possible in the acute stage. Two weeks later, for volvulus of sigmoid, resection of the sigmoid could be performed to prevent the possibility of recurrence. In the case of volvulus of the small intestine, excepting untwisting nothing else can be done. Fixation of caecum or small intestine should not be attempted.

Adhesions are a serious problem because they may recur. But when we find that the adhesions have produced a marked constriction of a certain portion of the bowel without causing any necrosis, a proximal enterostomy is usually sufficient after release of adhesions. But if a kink or obstruction is too acute, a lateral anastomosis between the distended and the collapsed loops of bowel will perhaps be better. In dealing with inflammatory and postoperative adhesions, the fact that a prolongation of the lumen of the bowel into the band of adhesion may be present should be remembered before release of adhesions between clamps.

In many instances of intussusception the ideal will be to reduce the intussusception if possible after opening the abdomen. But in cases of chronic intussusception complete reduction may not be achieved in which case, depending on the condition of the patient, resection or exteriorisation is the available method.

In most cases of tuberculous strictures of the lower ileum or caecum, if the patient's condition is good, an ileotransverse colostomy using the healthy loop of ileum is the treatment of choice. If the patient's condition is poor, a proximal enterostomy will save the patient's life and later an ileotransverse colostomy should be done. In the case of growths in the bowel, if it is in the right side, an ileotransverse colostomy and if it is

in the left side a transverse colostomy will be the simplest measures possible. Here again in very bad cases ileostomy is the treatment of choice.

As remarked already it is better to prevent a paralytic ileus by avoiding the causes such as (1) exposure and undue handling of the bowel when the abdomen is opened, (2) spread of inflammatory focus in the peritoneum and (3) dehydration and toxaemia. But for prophylactic management of paralytic ileus, 1/6 gr. of morphia six hourly in the adult for 2 or 3 days, retaining the Ryle's tube in the stomach and continuous aspiration, I.V. 5 per cent glucose and complete stop of feeds by mouth constitute the best measures.

ACUTE APPENDICITIS —DIAGNOSIS AND MANAGEMENT

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Surgical Anatomy

The appendix has been regarded as a vestigeal organ by some, but Keith regards it as a lymphoid structure. Its length ranges from ¾" to 9" but commonly it is 3½" long. Congenital absence of appendix has been recorded but must be looked upon as extremely rare. It is completely covered with peritoneum and has a considerable mesentery, extending to its tip as a rule.

The arterial supply of the appendix is from a branch of the lower division of the ileocolic artery. It enters the mesentery of the appendix a short distance from the base of the appendix and then runs towards the tip of the appendix lying at first near to, and afterwards in the free border of the appendicular mesentery. The ileocaecal orifice is sometimes guarded by a semilunar valve formed by a fold of mucous membrane.

The position of the appendix is variable. The following positions are common: 1. Anterior or pre-ileal; 2. Postileal or splenic; 3. Pelvic (the appendix hangs downwards over the pelvic brim in relation to the psoas); 4. Sub-caecal (The appendix lies curled to the right below the caput caeci in relation to the iliacus); 5. Postcaecal or retrocaecal where it may lie in the retrocaecal fossa covered with peritoneum or adherent to the posterior aspect of the caecum in the anterior wall of the fossa or on the fascia iliaca in the retrocaecal fossa uncovered with peritoneum; 6. Ectopic in subhepatic position or as left sided appendix.

Pathology

It is common in those whose diet has a high protein with low residue and those who lead a sedentary life. It is rare in orientals probably because the squatting position which they adopt during defaecation helps in emptying the caecum.

It is the structure of the appendix which predisposes it to pathological conditions. Broadly speaking two types of acute appendicitis are recognised—obstructive and non-obstructive. Since the appendix is a *cul-de-sac*, it is liable to undergo occlusion either by a foreign body, fruit seeds, faecal concretions or by oedema of the submucous lymphoid tissue, etc. In the obstructive type the pathological behaviour of the appendix depends on whether:

(*a*) the appendix is obstructed and seriously infected—resulting in obstructive appendicitis;

(*b*) the appendix is obstructed but without infection—a mucocele of the appendix develops with symptoms of chronic appendicular disease;

(*c*) the appendix is infected, but not seriously obstructed—catarrhal appendicitis develops.

In obstructed type the loop behaves as a closed loop segment. Organisms multiply in the obstructed segment. It distends with pus and gases formed both as a result of fermentation and diffusion from the veins further aggravates the conditions. Distension causes congestion and oedema. Thus if the stasis proceeds, the organ is liable to get devitalised due to thrombosis and thus the blood supply of the appendix may be lost and gangrene may develop. The appendix may undergo perforation. If the perforation occurs before the protective adhesions form, general peritonitis results. However if the inflammatory process is more gradual and localising, adhesions had time to develop, appendicular abscess forms. It is this obstructive type of appendicitis which is more fatal than the non-obstructive type which will be described now.

As the appendix contains lymphoid tissue in the submucosa it acts as the first line of defence against the swarming host of intestinal bacteria which are B. coli, streptococcus faecalis, and other intestinal commensals. Sources of infection may be either from the lumen itself or from the blood stream. The infection extends from the lumen either by way of an ulcer or a patch of mucosa devitalised by appendicular distension.

Clinical Features

The onset of acute appendicitis is associated with (1) rapidly increasing colicky pain usually

across the abdomen at the umbilical level, (2) vomiting—which is quite early and continuous, (3) temperature rising by 1-2° along with rise in the pulse rate. Sometimes rigor may occur in uncomplicated obstructed appendicitis. Even at this stage tenderness and muscular rigidity may be noticed. Tenderness may be greatest at any point in the Sherren's triangle.

Later the pain settles down in right iliac fossa. Local tenderness and rigidity may be noticed. Rebound tenderness and Rovsing's sign may be present. Hyperaesthesia is well marked in the whole extent of Sherren's triangle but when the appendix perforates this disappears and the pain also becomes less for sometime, although this fact is being disputed by some authorities. When perforation occurs, a local mass may be felt if adhesions had time to form. If perforation occurs early, instead of a localised abscess there may be spreading tenderness and rigidity. Temperature may rise and signs of collapse be present due to diffuse peritonitis. Leucocytosis usually occurs.

The non-obstructive forms of appendicitis are less severe. The onset of pain is more gradual, less colicky and is situated in the epigastric area rather than umbilical. Vomiting is late and slight and seldom absent. Perforation, abscess formation and peritonitis do not occur. Temperature and leucocyte count are seldom elevated. Pulse rate rises to 100 or 120 per minute. Attack subsides gradually after a day or two.

The clinical picture is greatly influenced by age and the position of the appendix.

AGE :

Childhood—Diagnosis is not always easy. If the child is asleep first palpate before the child awakes. Rectal examination is specially valuable in young children. Distress during a rectal examination usually means real tenderness.

Old Age—Mortality in old age is considerably higher. Initial pain is less intense and colic may be absent. Often first symptoms may occur only with perforation and peritonitis when the patient may collapse suddenly with pain and vomiting and perforation may be detected an hour later.

POSITION OF APPENDIX :

Retrocaecal—Pain, tenderness and rigidity may be more prominent in the flank. As the appendix lies in relation to the psoas, psoas test may be positive. There may be irritation to ureter and ureteric colic may be simulated.

Pelvic—Abdominal signs may be absent. Dysuria, frequency of micturition and diarrhoea may occur. Psoas and obturator test may be positive.

Subcaecal Appendix—Passive extension of the hip leads to stretching of iliacus and an increase in pain.

Pre-ileal—All the classical signs can be expected only in this position.

Postileal—Vomiting is earlier and incidence of portal pyaemia and pylephlebitis is higher in this position due to its close relation with the superior mesenteric vessel.

Subhepatic position—High abdominal pain, high rigidity and even a tinge of jaundice may appear. It may give rise to haematemesis.

Left-sided—Symptoms appear on left side.

DIAGNOSIS

One should not pin his faith on any one particular sign or symptom in appendicitis in view of the varying position of the appendix itself. Nausea and vomiting are present in 70 per cent cases and hyperaesthesia in only 86 per cent.

Leucocytosis is not essential for making or excluding the diagnosis. It is present is only 75 per cent cases. Differential count is of paramount importance.

Temperature usually is not above 99·4° or 99·6°F. A case of appendicitis may have normal temperature occasionally. Hence it will be criminal to rule out appendicitis in the absence of temperature.

One must not fail to examine the chest, thoracic and lumbar spines in any case.

Perforation of unsuspected ulcers should always remain in sight.

DIFFERENTIAL DIAGNOSIS

To avoid misdiagnosis one must consider the following conditions in a differential diagnosis. Misdiagnosis is quite common. De Quervain reported 95 cases of misdiagnosis in a total of 1723 cases that had come to the operation table. The various conditions to be excluded are :

Acute cholecystitis, liver abscess, perforated peptic ulcer, perinephric abscess, pyelitis, nephrolithiasis and ureteric calculus, psoas abscess, regional ileitis, ectopic gestation, pyosalpinx and acute salpingitis, acute pancreatitis, and diaphragmatic pleurisy.

MANAGEMENT OF ACUTE APPENDICITIS

The management as discussed below has been adopted in Medical College, Agra.

GROUP 1 (ACUTE APPENDICITIS WITHIN 1-48 HOURS) :

Every one is convinced that appendectomy must be performed in all cases coming within 48

hours. Appendectomy in such cases becomes a practice in almost all clinics. In spite of all these experiences there are still those who do not favour immediate operation for acute appendicitis. Loveland holds that nature left to herself will restore to health between 90-100 per cent of all cases of acute appendicitis. I believe that there is some justification on either side. Needless to repeat, a clear understanding of the pathology of acute appendicitis—its two types obstructive and non-obstructive, the former having a high mortality due to grave sequelae—has helped us to revise our management of such cases. There should be no two opinions that the obstructive type must be subjected to immediate operation.

But in non-obstructive type there is a controversy regarding management. I think one can certainly keep these cases on the Ochsner-Sherren line of treatment and watch judiciously. No doubt, one should be sure that one is dealing with non-obstructive type. In the present days of antibiotics there is all the more reason for putting up these cases of nonobstructive type on conservative lines (Ochsner-Sherren). Still there are clinics where appendectomy is the practice in all cases coming within 48 hours.

In the series of 123 cases at our hospital there was not a single death. Only 29 cases were operated upon and the rest were kept on Ochsner-Sherren line and with adequate antibiotics. The results themselves speak for conservative treatment in the nonobstructive type.

In acute appendicitis complicating pregnancy, one should follow the saying of Cuthbert Lockyer, "Ignore the pregnancy, appendicitis is a serious lesion and as such should be treated on its merits."

Ochsner remarked that in infants, young children and the aged the question of waiting treatment should not arise. But Hamilton Bailey feels that in cases with small phlegmon one can safely put the patient on Ochsner-Sherren line but has to remain extra alert for danger signals.

McBurneys' incision answers well in males and in cases where diagnosis is 100 per cent certain. In doubtful diagnosis and in females, Battles incision answers the purpose.

Drainage is indicated in case of gangrenous appendicitis with peritoneal reaction accompanied by sanguinous and serous fluid where suppuration is absent ; in cases of perforated appendix with free faecal matter in the peritoneal cavity and where the peritoneal cavity is full of pus, the purulent collection is not circumscribed and is malodorous.

GROUP 2 (ACUTE APPENDICITIS WITH DURATION OF MORE THAN 48 HOURS WITH OR WITHOUT LUMP) :

When the disease is present for more than 60 hours, the appendix gets matted to neighbouring structures. After about 3-5 days from the onset of the attack a lump may appear which consists of oedematous caecum plastered with greater omentum and probably coils of thickened small intestines. This is nature's protective mechanism of localising the infections, and it takes about two months for this lump to disappear. Every one agrees that cases of this group must be put on Ochsner-Sherren line and operation delayed till the lump is present. In centres where the waiting treatment is followed it is usually restricted to adults with established diagnosis and where there are no signs of perforation, abscess formation or peritonitis.

There are certain strict contraindications to 'Ochsner-Sherren' line of treatment :

1. In childhood and early adolescence ;
2. Diffuse peritonitis due to recent perforation ;
3. In the presence of hyperaesthesia, which means the appendix is still unperforated ;
4. Uncertainty in diagnosis ;
5. When a purgative has been used recently ;
6. Recent perforation.

Such conservative treatment is only advisable "on the threshold of the operation theatre" and a careful watch must be kept for the danger signals indicating an urgent operation, which are :

1. Ten point rise in the pulse rate in the first four hours ;
2. Temperature remains at more than 100°F on two successive days. A moderate rise of temperature with a pulse rate in the eighties or nineties does not necessarily foretell failure of delayed treatment. A moderate rise may just mean a good reaction on the part of the patient to inflammatory process ;
3. If pain increases under treatment ;
4. If the signs of general peritonitis develop ;
5. If the abdominal swelling grows ;
6. If the swelling fails to recede after the fifth day of waiting ;
7. Vomiting after the first few hours demands that conservative line of treatment should be stopped.

Absence of hyperaesthesia is no certain indication that perforation has already occurred.

When the operation is undertaken incision is made in the region of maximum rigidity. If the appendix is still unruptured it is removed. If ruptured, and is blanketed by closely adherent

omentum, it is removed together with the portion of the omentum which ensheaths it. If there is an abscess cavity it is removed. If it is embedded in the abscess wall it is left to be removed after 3-4 months when all traces of abscess will have disappeared.

In following the "Ochsner-Sherren" line of treatment the surgeon should take the responsibility on himself. The case is examined and the position of the appendix is established clinically. The patient is nursed in Fowler's bed. His pulse is recorded hourly or two-hourly and B.P. and temperature four-hourly. A fluid output and input chart is also maintained.

Diet. 1-48 hours—nothing by mouth, I.V. fluids given. After 48 hours sips of water started and saline discontinued by evening.

On the fifth day if pulse and temperature are satisfactory and the patient feels hungry, feeding is started gradually.

Drugs. Only antibiotics are given parenterally. No morphia and its derivatives to be given at any time.

Bowels. Opened on 4th day by a small glycerine olive oil enema if not opened by nature. No purgative to be used. When the acute phase is over liquid paraffin started, oz. 2, T.D.S.

GROUP 3 (CASES OF ACUTE APPENDICITIS WITH APPENDICULAR ABSCESS FORMATION):

In certain cases lump does not resolve and appendicular abscess forms. With the use of antibiotics the incidence of abscess formation has been considerably reduced.

The treatment of abscess is well established and standardised. It must be drained and nothing more is to be done; the question of appendectomy should never arise in the mind. Simple drainage has reduced the mortality to less than 1 per cent. Conservative treatment for abscess has no place, as it carries a very high fatality rate of 10·5 per cent.

Indications for Drainage of an Abscess—1. The lump is not getting smaller after the fifth day, rather getting bigger.

2. Temperature is swinging above 100°F. on several successive days.

3. Oedema of the subcutaneous tissue denotes that drainage has been delayed.

Appendectomy in such cases is postponed for four to six months at least unless symptoms develop in the meanwhile.

GROUP 4 (APPENDIX WITH DIFFUSE PERITONITIS):

Regarding the management there are two schools of thought—operative and conservative. Those who believe in operative treatment argue that we can hardly expect that chemotherapy alone can struggle against gross and continued reinfection in the presence of perforated appendix lying free in the peritoneal cavity with pus and faecal matter oozing out of perforated appendix. The arguments appear convincing. The operation in this condition is not easy. Operative treatment once adopted should be nothing short of appendicectomy. It has been the experience that should the operation result in considerable intra-abdominal manipulations, or if the appendix could not be removed for any reason, the results are disastrous and death usually occurs. One should be sure of his operative skill before attempting to undertake such an operation as it is almost certain that the appendix will be found matted together to neighbouring structures, if the disease has been present for more than 60 hours.

There are many cases on record where the result of operative treatment has been extremely sad. This leads surgeons to reconsider about the conservative treatment planned by Ochsner-Sherren. The conservative treatment aims at transforming the diffuse peritonitis into a localised infraumbilical or pelvic collection of pus which can be subsequently drained. Favourable results have been obtained by treating such cases on conservative lines. Comparing the results there is a recent tendency to return to the conservative line again.

However there are two exceptions where conservative treatment has no place:

(1) Childhood and early adolescence, as at that age localisation does not occur.

(2) Diffuse peritonitis due to recent perforation.

Observations show that conservative treatment gives definitely better results.

SPECIAL ARTICLE

CONSUMERS' TRIALS WITH FOOD YEAST IN UTTAR PRADESH

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The Nutrition Sub-Committee of the Health Survey and Development Committee, Government of India (1946) while drawing attention to the necessity for the development of production of food yeast in India said, "Mention must also be made of the manufacture of dried yeast and yeast extracts by the growth of yeast in molasses solu-

tion. Yeast is of value as a supplement to poor Indian diets, because of its richness in proteins and vitamins of the B group. It has considerable therapeutic uses in the treatment of malnutrition and deficiency diseases. Certain strains of yeast can be grown on molasses to produce palatable products of a high nutritive value. In the process, proteins and vitamins are synthesised from relatively valueless carbohydrate product—molasses—of which a surplus normally exists in India. The possibility of developing the production of food yeast at low cost should be fully explored."

The introduction of yeast into the human dietary is not new. It had formed part of the diet of man from the earliest times, in foods and drinks. With the advent of civilisation, these foods rich in yeast were discarded and replaced by more sophisticated foods. In more recent times it has again found favour with the nutritionists as a therapeutic agent for the correction of certain nutritional deficiencies as well as to provide a source of good protein for the poor dietaries. The Technical Commission on Nutrition of the League of Nations (1938) also recommended the inclusion of yeast in tropical diets to provide additional good protein and B vitamins.

A great part of our population subsists on a diet which is unsatisfactory when compared to the dietary standards put forward by nutritionists. The results of dietary surveys carried out in U.P. (Govil *et al*, 1953) show that the diets are generally composed of cereal foods and lack in milk, green leafy vegetables, fruits, meat and other products rich in nutrients essential to prevent malnutrition. They are deficient in first class proteins, vitamins, and minerals. Scarcity of protective foods is largely responsible for defects in diets.

An increase in the production of natural foods of vegetable and animal origin requires a long time and large expanse of cultivable land. During the period before self-sufficiency can be achieved, it is necessary to find out ways and means for producing some artificial and acceptable food which can easily supplement the poor Indian diet at a comparatively low cost. Yeast is such a food which can be manufactured in large quantities in a short period and a regular supply can be maintained when once the factory is set up. The food yeast industry is particularly important in this country as there are no big dairy or meat industries and the yield of foodgrains per acre is low, compared with other countries. Poor Indian diets can be supplemented with yeast which is a particularly valuable source of proteins of high biological value to vegetarians who for reasons of custom and religion rule out meat, fish and eggs from their diet.

Conditions in India are very favourable for the development of the food yeast industry as we have the largest sugar-cane industry in Asia and thus large quantities of molasses are available which can be used as media for the growth of food yeast. One acre of land could yield 840 lb. of proteins in the form of food yeast but only some 70 lb. in the form of meat or milk proteins, while the vitamin B output from the food yeast could be even more than proportionately higher (Thaysen quoted by Swaminathan, 1946). The conversion of a relatively valueless material (molasses) into food rich in important vitamins and first class proteins so greatly needed to make good some of the deficiencies of our poor diets is obviously desirable.

Various trials on the value of food yeast have been carried out in England and the results have been summarised in a publication 'Food Yeast', War Memorandum No. 16, issued by the Medical Research Council, England. Nutritional trials on human subjects have also been carried out in India with yeast. The results of the study confirm those of other trials that food yeast improves the nutrition of the people. The value of food yeast is generally agreed but to make it acceptable to the people of our States as a part of their usual diet is a different thing. Two factories had been set up in India to manufacture food yeast but had to close down for lack of demand.

The object of the present enquiry was therefore to find out the reaction of the consumers when food yeast was cooked with popular Indian dishes as well as to find out if a demand could be created in the villages for food yeast. 180 lb. of food yeast (*Torula utilis*) were received through the courtesy of Food and Agriculture Organisation of the United Nations for U.P. and the consumers' trials were arranged at the Silver Jubilee Health School, Lucknow, and at the village named Thanu in Basti district.

The School is a residential institution under the U.P. Public Health Department for imparting training in midwifery and health visitors' courses. Their kitchens are run under the direct supervision of the Superintendent of the School. Eighteen students (adult females) who were willing to cooperate in the investigation were selected for the purpose. The food yeast was incorporated in *chapaties* when the *atta* was being kneaded and in *dal* and vegetables when the same were being seasoned, after cooking. Its intake was equally divided between the two main daily meals. The experiment lasted for five weeks from 22-5-1953 and the weekly reports are tabulated below:

In the fifth week of the experiment two students developed diarrhoea and the trial was dis-

No. of week	No. of students	Quantity of food yeast with morning meal	Quantity of food yeast with evening meal	Any change in taste or flavour of preparation	Remarks
1st week ...	16	2 oz. added to 1 lb. 10 oz. of dal.	2 oz. added to 6 lb. of wheat flour.	None detected.	Fully acceptable.
2nd week ...	16	4 oz. added to 2 lb. of dal.	4 oz. added to 6 lb. of wheat flour.	do.	do.
3rd week ...	18	For 12 non-vegetarians 3 oz. of food yeast added to 3 lb. of meat. For 6 vegetarians 1½ oz. added to curried vegetables and dal.	4½ oz. food yeast added to 6 lb. 12 oz. of wheat flour.	do.	Fairly acceptable.
4th week ...	16	6 oz. added to 2 lb. of dal.	6 oz. added to 6 lb. of wheat flour.	Both affected.	Not acceptable.
5th week ...	18	6¾ oz. added to 6 lb. of dal.	6¾ oz. added to 6 lb. 12 oz. of wheat flour.	do.	do.

continued from 28-6-1953. This showed that half an ounce of food yeast could be consumed per person per day without affecting the taste or flavour of the Indian dishes and without causing any digestive upsets. The disability which this nutritious food possesses seems to be its flavour and taste only.

Trial at Thana Village in Basti District

Thana is a small village in Harriya tehsil, hardly about two miles from the Tehsil headquarters. It is inhabited by about 900 persons consisting mostly of Kayasthas (an educated class) and labourers. The people of the village were explained the object of the scheme as well as the advantages of food yeast in their dietaries on my first visit. Twentyone willing adult males were included in the experiment. The Sanitary Inspector, Harriya tehsil, was supplied with a measure and was entrusted with the work of administering 11 g. of food yeast per person per day to be consumed with both the main meals. Weekly requirements of the yeast were supplied to each person. The subjects were interrogated once a week to find out if they were taking the yeast as well as their reactions. It was mixed with *atta, dal,* curried vegetables and in Bengal gram flour when preparing *pakories* etc. They started taking it from 9-6-1953. Out of 21 persons consuming about 11 g. daily, 3 complained of digestive disturbances during the first week of the intake and discontinued it. One of them appeared sensitive and vomited while the other two reported indigestion and dull pain in the abdomen. The rest accepted it and continued taking it for six months or so to advantage. In addition to the above, male adults took about 11 g. of food yeast daily for about nine weeks.

The subjects were all adult males, their ages ranging from 19 to 40 years. Their weights were taken before and on completion of the trial. There was practically no gain in weight as could be expected but their appetite improved and they felt better. Nearly all of them spoke well of the food—mostly because their appetite had improved and they were getting better sleep. The improvement in appetite may be due to increased secretion of acid in the stomach with the intake of food yeast (Platt, 1943, quoted in M. R. Council War Memorandum No. 16, 1945). The subjects were also examined clinically before and after the trial.

The two probable objects of adding food yeast to a human diet would be improvement of its protein and of B vitamin content. An intake of about 11 g. of dried food yeast (*Torula utilis*) would increase the amount of dietary protein by only about 5 g. daily. This may seem negligible but due to supplementary action of proteins, a mixture of proteins of cereals, of which our diets are largely composed, and yeast proteins gives a higher biological value so essential for nutrition, than either of these alone.

The people were satisfied about the usefulness of the intake of food yeast but would they take it as part of their normal meal if it were made available to them in the market on payment at a low cost? Except four people who were in service in the education line out of the total beneficiaries, none agreed to the same. Even at the start of the trial the labourers were reluctant to be included

in the scheme and only after persuasion by others in the village did they agree to take food yeast. Food habits die hard and any food given gratis, specially a food to which they are not accustomed is viewed with distrust. It therefore became clear that under the present circumstances, food yeast cannot be consumed by the masses if they have to pay for it. To create a demand, wide publicity with free supply of the food should be undertaken. This work may be taken up by the industrial concerns and till such time that the masses realise its importance, institutions like school boarding houses, jails, asylums, hospitals, hotels and cafés may be advised to incorporate it in the common dishes to ensure better nutrition to the people served by these institutions as well as to guarantee a minimum sale of the food to the industry.

Summary

1. Dried food yeast has been found as an acceptable and palatable human food if taken in small amounts—about 11 g. per day.

2. Half an ounce of dried food yeast could be consumed daily per adult person without affecting the taste or flavour of the common Indian dishes and without causing any digestive upset. This quantity may be regarded as the maximum daily adult dose.

3. In adults the intake of dried food yeast increased the appetite and the subjects felt better.

4. To create a demand in the public for dried food yeast, wide publicity appears necessary.

Acknowledgment

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CASE NOTE

COMPLICATIONS IN PNEUMOPERITONEUM THERAPY

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Therapeutic pneumoperitoneum as a form of relaxation of the tuberculous lungs has been used widely since 1935. Complications that may arise are, however, usually few, less serious and can be easily prevented with proper technique or satisfactorily managed if they occur. But there occur some complications in the course of this therapy which cannot be foreseen and naturally they seem to be a little embarrassing when they appear all on a sudden.

This report presents two types of such complications.

Case Reports

Case 1—C. D., Hindu, male, aged 20 years, was admitted on 25-12-1952 with complaints of cough, haemoptysis, fever 99° to 100°F daily, with sputum positive for A.F.B., E.S.R. 60 mm. (1st hour reading). There was radiological evidence of bilateral exudative infiltration. After administration of 30 g. of streptomycin and 900 g. of P.A.S. it was thought suitable to institute P.P. along with P.A.S. and isoniazid. P.P. was started from 23-2-1953. The point of puncture was selected at or below the level of the umbilicus, at the lateral border of the rectus muscle. Four months of collapse therapy was carried out at intervals of 7 to 10 days. The amount of air injected intraperitoneally was 900 to 1000 c.c. with pressure not exceeding +8 to +10 cm. of water column per refill. The level of the diaphragm was seen to be at the level of the 4th rib on the right side with wide separation of the liver and the diaphragm, and at the level below the 4th rib on the left side. The lesions almost cleared up specially on the right side. The patient looked better and gained in weight. E.S.R. was 5 mm. at the 1st hour, and there was no temperature. On 12-10-1953 at 11 A.M. while the patient was laughing, he suddenly felt an acute stitching pain at the right side of his chest and after 5 minutes he began vomiting. The last refill was given 8 days back. He was sweating and the pulse rate was 120 per minute and the respiration rate was 60 per minute. On auscultation the breath sound was completely absent on the right side and it was tympanitic on percussion. The apex beat was shifted two inches laterally from its

normal position. Immediate screening was arranged and spontaneous pneumothorax was seen to have occurred on the right side. X-ray was taken and no air was seen under the diaphragm which was at the level of the 6th rib on the right side and 5th rib on the left side with no space between the liver and the diaphragm. It was suggested that air escaped from the peritoneal cavity and possibly it found its way into the thorax. The right lung was seen to have collapsed to its hilar region. An attempt was made to detect the presence of air inside the peritoneum and the pressure thereof, which was seen to be zero. Then the A.P. needle was introduced into the right pleural space and the manometer indicated a pressure of +18, +20 cm. of water. 400 c.c. of air was removed from the chest with the final pressure of +2, +8. The patient felt better after the removal of air. After two days the pressure was noted again and it was seen to be 0, −4 and nil in the pleural and the peritoneal spaces respectively. No further air was taken out. After 20 days the right lung was seen to be re-expanded completely to its original position but no attempt of giving further P.P. refill was made because it was thought that the accident might recur (Fig. 1A and 1B, *vide* Plate).

Case 2—C. R., Hindu, male, aged 22 years, came on 16-10-1952 with continued temperature of 101° to 102°F, E.S.R. 112 mm./1st hour, sputum positive for A.F.B., with radiological evidence of bilateral massive lesions and multiple breakdowns. He was treated with streptomycin 30 g., P.A.S. 2000 g. and isoniazid 300 tablets (50 mg. each), upto 6-10-1953. P.P. was started on 12-11-1952. 800 to 900 c.c. of air was used to give the final pressure of +8 +10. The patient was improving in general condition i.e. gaining weight and the E.S.R. fell down to 18 mm./1st hour but there was little radiological improvement. As seen from x-ray taken on 3-3-1953 both the lungs showed mixed type of lesion more on upper and mid zones, with more pleural thickening on the right side. The diaphragm was seen at the level of the 4th rib in the right side and that of the 5th rib on the left side. However P.P. was continued and after 36 refills on 14-7-1953 the patient complained of sudden stabbing pain in the chest with dyspnoea. He was restless. A skiagram was taken and spontaneous pneumothorax was seen to have occurred in the left side, with no apparent loss of abdominal air. Air was seen under both the domes of the diaphragm and the level of the diaphragm was at the same level, as it was before the episode. It was suggested that no air escaped from the peritoneal cavity. 300 c.c. of air was removed from the left pleural cavity to make the intrapleural pressure −4, +4, from +2, +10 which was the initial pressure. The intra-abdominal pressure was +6, +8. After a few days, on 30-7-1953 another attempt at P.P. was made with 300 c.c. of air without any repetition of the accident and P.P. was being continued with 900 to 1000 c.c. of air with +10, +12 intra-abdominal pressure (Figs. 2A and 2B, *vide* Plate).

Case 3—S. R., Hindu, male, aged 20 years, was treated as an ambulatory case from the out-patients' department with P.P. from 2-8-1952. On 20-10-1953 he was complaining of enlargement of his scrotum, especially the left side of it, just after the P.P. refills, which he says becomes smaller after 6 to 7 days. On examination (3-11-1953) the

FIG. 3 (CASE 3)—SCROTAL PNEUMOCELE.

scrotum was seen ballooned with air. External or internal inguinal ring was not enlarged and nothing was coming out through the inguinal canal on any side. On squeezing it became smaller. A diagnostic puncture was made and nothing but air came out. A scrotal pneumocele was diagnosed. He was relieved of the symptoms by wearing an improvised truss but on 5-2-1954 he came with the complaint that during coughing, he was experiencing pain in the right inguinal region and the scrotum again began to be enlarged after P.P. refills. This time it was seen that superimposed on the scrotal pneumocele, an indirect reducible right sided inguinoscrotal hernia had developed and P.P. was abandoned in favour of surgical intervention (Fig. 3).

DISCUSSION

Cases 1 and 2 presented the same picture of spontaneous pneumothorax following pneumoperitoneum, yet there were differences as revealed on further examinations In Case 1 the air under the diaphragm was

absent radiologically and the intra-abdominal pressure was recorded zero, immediately following the catastrophe —suggesting that the air from the abdomen escaped from the peritoneal cavity into the thorax. Evidently it had to pas through the diaphragm†

But in Case 2 persistence of positive pressure of the pneumoperitoneal air immediately after the crisis and its persistence even after the lung was completely re-expanded suggest no tear in the diaphragm. Moreover inspite of regular P.P. refills after the lung came back to its original position there was no repetition of the accident. The condition of the lung parenchyma rather indicates possibility of spontaneous rupture.

In Case 1, if it be admitted that the air had escaped from the abdominal cavity into the thorax, the question remains to be decided about its mechanism.

Banyai and Jurgens are of opinion that in cases of this type, the air follows the connective tissue sheath of the oesophagus and great vessels through the diaphragmatic hiati into the mediastinum with signs and symptoms of mediastinal emphysema. Subsequently the increased tension of the accumulating air causes the pleural membrane to rupture.

According to another concept (Simond, Ross) air from the P.P. courses directly through a pre-existent defect in the diaphragm into the pleural space. According to Rapa's classification such defects may be inflammatory, degenerative, congenital and traumatic in origin. The degenerative changes may result from P.P. It may be enhanced by phrenic nerve paralysis. The three commonest congenital defects of the diaphragm are: those going through the pleuroperitoneal hiatus (Bochdalek's foramen), those formed due to the failure in formation of the posterior portion, and those passing through the foramen of Morgagni. The first two are usually present at birth and result in defects which are larger and when present these are on the left side. These have no pleuroperitoneal lining or sac and cause death due to herniation of the heart and the lungs in infancy. On the other hand defects through the foramen of Mogagni are found in adults and situated on the right side beneath the sternum and at the right costal margin. They have always a hernial sac of peritoneum.

The congenital hiati on the left side of the diaphragm are subjected to tranma throughout lifetime. Whereas when P.P. separates the liver from the diaphragm, the defects on the right side for the first time are subjected to great changes in intra-abdominal pressure. Once the liver is separated, the right diaphragm becomes more susceptible to indirect trauma, and any congenital defect which was protected by the liver, becomes patent under such condition. Probably this was the situation that was encountered in Case 1.

From the foregoing evidences, it seems clear that there are two principal factors to account for the occurrence of this complication. The first is the presence of a diaphragmatic defect, usually congenital. The second is the dynamic action of the P.P. pushing the liver and the diaphragm apart allowing unusual stress to bear on the right leaf of the diaphragm. If such defect would have been a large one, the institution of P.P. would have been impossible. In moderate sized defect, the complication would appear rather early.

The case history presents another aspect which appears rather perplexing. Rupture through the diaphragm might be expected to occur during or immediately after a P.P. refill when the intraperitoneal pressure is at a maximum, but in the present case the rupture did not occur until a good few days passed after the previous refill. It may be recalled that the patient's diaphragm was maintained at a fairly high level (4th rib) for a long time before the episode of rupture. During this period the muscle fibres were apparently stretched apart sufficiently to permit a small rupture through the diaphragm, may be at the defective area. It is suggested that intrapleural pressures were elevated immediately after the refill of P.P. air and gradually readjusted to a normal pressure by the time the next refill was given. Therefore, although the highest intraperitoneal pressure is obtained immediately following a refill, the differential pressure between the intrapleural and intraperitoneal spaces may be greatest sometime later. Moreover as the diaphragm descended, a seal which might have been established at the point of the defect is broken due to altered relation of the base of the relaxed right lung and the diaphragm.

Case 3 demonstrates a developmental anomaly of the testicular pathway. The testes migrate from a retroperitoneal position downward into the scrotum in association with a pocket of peritoneum. Normally, in the early months of childhood, the tubular evagination of peritoneum extending into the scrotum becomes closed. Various anomalies do occur and occasionally there exists a passage way between the peritoneal cavity and tunica vaginalis. This anatomy presents the picture of peritoneal hernia without demonstrable hernial sac. Circumstances indicate that the latter condition existed in Case 3 prior to P.P.

Summary

Two cases of spontaneous pneumothorax complicating therapeutic pneumoperitoneum are presented. The second one seems to be a usual spontaneous and the first one seems to be due to rupture of the diaphragm which was caused by displacement of the liver incidental to P.P. Change in pressure inside the abdomen or indirect trauma may be the precipitating factor. Congenital defect in the diaphragm is believed to be the anatomical basis of this catastrophe.

A case of scrotal pneumocele is presented which is believed to be the result of a congenital patency in the inguinal canal and it might have been cured unless a hernia came to superimpose it when it became an absolute contraindication to P.P.

Acknowledgment

I thank Major S. Dutta, Superintendent, R. G. Kar Medical College Hospitals for kind permission to publish the case reports.

† Laughing causing sudden rise of intra-abdominal pressure might have been the immediate cause of rupture of some defective spot in the diaphragm.
—Ed., *J. Indian M. A.*

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NUTRITION AND IMMUNITY

Nutritional state determines by and large the state of immunity—this is the common belief which may not be absolutely without foundation. However, it has not been possible so far to adduce any undisputed evidence in support. On the contrary, there are several expert observations, made chiefly in the field, which have indicated the independence of immunity on nutrition.

Gell[1] emphasised "that undernutrition does not play as large a part in widespread epidemics as is generally supposed". He drew his conclusion from certain observations made in Wuppertal, Germany, during 1946. In this city, the basic ration for the Germans was about 1,000 calories, and so there was widespread evidence of severe undernutrition. Gell selected 57 test subjects from among these severely undernourished Germans, while 16 well-fed members of British occupation troops served as controls. The efficiency of the antibody producing mechanism of the test subjects was compared with that of the controls. Very little difference of response to immunisation was observed between the test and control groups. It was also a significant fact that there actually had not been any widespread epidemic disease in Germany since the end of the war, inspite of the post-war undernutrition. Hence, so far as these results indicate, it does not seem that mass starvation lowers the state of immunity.

Experiments on extremely starved people, made by Balch[2], fully supported Gell's contention. He selected for his experiments 25 severely ill, nutritionally depleted, patients and 19 well-nourished controls. All of them were injected with a single dose of purified diphtheria toxoid intramuscularly. The quantity of diphtheria antitoxin, produced with the stimulus of diphtheria toxoid in each of the 44 subjects, was measured accurately. There was no significant difference in antibody response shown between the test and the control groups. Surprisingly enough, many of these moribund marasmic patients developed much more antitoxin than that produced in the healthy controls. Indeed, these patients dying of wasting disease continued to develop antitoxin till their death.

[1] *Proc. Roy. Soc. Med.*, **41** : 323, 1948.
[2] *J. Immunol.*, **64** : 397, 1950.

The severity of illness and the extreme degree of undernutrition, suffered by these patients, was indicated by the loss of weight sustained by them. The loss amounted to as much as 40 per cent of their previous body weight. This figure thus exceeded that of the average weight loss of the prisoners of the notorious Belsen Concentration Camp, which was 38·8 per cent of their previous body weight.[3] This extreme weight loss was incompatible with life. Nevertheless, the mechanism of immunity remained unaffected till the last breath.

Observations made by Bieler *et al*[4] lend further support to this contention. They found that even highly malnourished, anaemic individuals at this clinic were remarkably free from infectious diseases. They analysed the sera of 22 of these anaemic hypoproteinaemic patients, and also of 7 normal controls, electrophoretically. These analyses revealed that the hypoproteinaemic patients kept up their serum globulin at a high level at the cost of albumin. This tendency of maintenance of globulin at the expense of albumin explains the normal functioning of the immunity mechanism of undernourished hypoproteinaemic patients. It seems that the system of priorities adopted by the undernourished body puts the defence mechanism pretty high on the list. Immune globulin is the sheet anchor of defence. Hence, even at times of the greatest stress, the formation of globulin is kept at par at the expense of other proteins.

Clinical experience accumulated during World War II also showed that immunity to infection did not depend on nutritional state. For instance, in a Japanese P.O.W. hospital the incidence of post-operative infection among undernourished American prisoners was very low despite very inadequate means of asepsis.[5] Another instance is that typhus mortality was worse among the well-nourished German guards than among the starving Russian prisoners of Hammerstein.[6]

In an extensive review of undernutrition and starvation Keys[7] remarks: "Morbidity and mortality records from World War II provide material for thought. In contradistinction to previous wars, pestilence was never rampant except where sanitation control was neglected. No epidemics appeared in Western Holland or Greece at the times when there was mass starvation in those areas. The diphtheria epidemic of 1946 appeared

[3] MOLLISON, P. L.—*Brit. M. J.*, **1** : 4, 1946.
[4] *J. Lab. & Clin. Med.*, **32** : 130, 1947.
[5] GOTTLIEB, M. L.—*U. S. Nav. M. Bull.*, **46** : 663, 1946.
[6] MARKOWSKI, B.—*Brit. M. J.*, **2** : 361, 1945.
[7] *J. A. M. A.*, **138** : 500, 1948.

to affect the American occupation troops just as severely as the underfed populace".

All these field observations indicate that starvation is not necessarily productive of a lowered resistance or a heightened susceptibility to infectious diseases in general. The age-long association of famine and pestilence can be largely ascribed to sanitary faults rather than to a low state of immunity. That scrupulous sanitation can prevent infectious diseases of starving people, was shown clearly by the Minnesota experiment.[9]

In this experiment, which lasted nearly two years, 32 young volunteers lost an average of 24 per cent of their body weight in six months, due to starvation. However, strict sanitation was maintained during this experiment, and bad or questionable articles of food were never used. Gastro-intestinal disorders, which are almost invariably reported from famine areas and frequently contribute greatly to the disability and death of famine victims, were conspicuous by their absence during the Minnesota experiment. There was no doubt whatsoever that the degree of starvation of the Minnesota volunteers was comparable to that prevailing during famines.

Diarrhoea and dysentery are the major factors of famine mortality in India.[9] The Minnesota experiment has shown that starvation itself is not responsible for these severe gastro-intestinal disorders. With the famines, there is associated breakdown of sanitation and recourse to strange and peculiar materials as food. These factors, rather than undernutrition, are responsible for diarrhoea, dysentery, and death.

Of course, tuberculosis is the one infectious disease, which seems to be related to the nutritional state. Incidence of tuberculosis seems to have increased during periods of severe food restriction. The data collected during the two world wars showed this to be so. One selected example would illustrate this relationship. In Denmark during the first world war "sharp changes in tuberculosis mortality were closely related to the level of food consumption and were relatively independent of overcrowding, unemployment and the like."[10]

However, tuberculosis is very much different from the acute infectious diseases which occur in epidemics during famines. The observations outlined above indicate that undernutrition does not necessarily affect the immunity to acute infectious diseases of man. These observations, made directly on man, have not been disputed.

Unlike, however, the field observations, which are at very little variance with one another, experimental studies on animals are so full of opposing results that no broad generalisations are possible. Perhaps the conditions prevailing during starvation of man are not reproducible in animals. Frequently both the caloric and proteinic cuts of animal experiments are more drastic than those during a famine. The results are, therefore, conflicting and their applicability to man is doubtful.

Experimental studies by Hartley *et al*[11] revealed the effect of exposure to severe climatic condition, with restriction of diet, and infection with pathogenic bacteria, on the mechanism of immunity. Antitoxin response of the guineapigs, exposed to such adverse conditions, was the same as that of normal controls.

In experiments (Metcoff *et al*[12]) rats were fed on a protein-deficient diet so as to develop hypoproteinaemia. These protein-depleted rats resisted infection with a virulent *Salm. typhimuriam* as good as the well-nourished controls.

Just the opposite results were, however, obtained by Cannon[13] in his series of experiments. He found that protein-depleted animals failed to show as much antibody as developed by non-depleted controls.

Nevertheless, more recent experiments of others have again shown the independence of immunity on diet, rich or low.[14] Among a flock of sheep, which grazed on the same pasture, a selected group was fed on a supplement of oats and linseed cakes, while the rest were kept without the dietary supplement. They were injected with two doses of diphtheria toxoid, A.P.T., and the antitoxin developed after the second dose was accurately determined. The response was definitely better when the interval between the injections was two months rather than one month. It was remarkable that when a good response was obtained by giving the injections at two months' interval there was no difference of response between the well-fed and the control groups. When, however, the interval was only one month, and so the average response was poor, the better-fed group showed a response twice as good as the controls. Thus, these accurate quantitative experiments indicated that when a mode of immunisation, which produces optimum results, is selected, diet exerts very little effect on immunity.

[9] KEYS, A.—*J. Am. Dietet. A.*, **22**: 582, 1946.
[9] AYKROYD, W. R.—*Indian M. Rec.*, **59**: 113, 1939.
[10] FABER, K.—*Acta tuberc. scandinav.*, **12**: 287, 1938.
[11] *Lancet*, **2**: 314, 1943.
[12] *J. Lab. & Clin. Med.*, **33**: 47, 1948.
[13] *J. A. M. A.*, **128**: 360, 1945.
[14] HOWIE, J. W., BARR, M. AND GLENNY, A. T.—*J. Path. & Bact.*, **65**: 143, 1953.

The above data relate to observations in man and experiments in animals, done with a view to finding out the effect of caloric undernutrition and protein deficiency on immunity. However, vitamins also form an essential part of nutrition, and like caloric and protein deficiencies, insufficiency of vitamins too has been incriminated to affect immunity. Opinions, however, have differed very sharply in this regard.

Vitamin A has been thought to possess an anti-infective effect, but undisputed immunological evidence of this is hard to come by. Xerophthalmia had once been supposed to be caused by vitamin A deficiency.[15] In puerperal fever vitamin A had been found to be of value in the treatment.[16] Similar results were also obtained in animals. For instance, vitamin A had been found to increase the resistance of mice to mouse typhoid infection.[17] But Topley *et al*[18] failed to find any significant effect of vitamin A on the immunity mechanism of the mouse. The series of experiments, which they performed, revealed that far from advancing immunity, "the addition of an excess of fat, butter, or lard, or of a vitamin A concentrate to this diet appeared to react unfavourably on the mice at risk". Nor could Thomas[19] support the claim that vitamin A was of value in the treatment of puerperal fever.

Experiments with members of the vitamin B complex have also produced equally conflicting results. Some have found association of vitamin B deficiency with lowered immunity, others have found very little effect, while still another group have found that vitamin B deficiency increases immunity far from lowering it. Example of the first sort is the work of Zilva[20] who found that biotin deficiency lowered resistance, while that of the second sort is the finding of Drummond *et al*[21] that vitamin B deficiency had little effect on immunity. Findings of the third sort are, however, the most interesting, and they show that vitamin B deficiency increases resistance.

Rasmussen *et al*[22] showed that the incidence of Theiler's infection was uniformly lower in thiamine deficient Swiss mice than in the optimum and high thiamine groups. Thiamine is, however, so essential for mice that without it they fail to grow, and die between 14 and 28 days. It was, thus, remarkable that the deficiency of even such an essential requirement of life as thiamine increased immunity to a viral infection rather than diminishing it. Thiamine deficiency also showed increased resistance of mice to poliomyelitis virus. Not only thiamine but also riboflavin seemed to increase the resistance of mice to viral infections.[22] Additional evidence of this nature was furnished by West *et al*[23], who found that pantothenic acid deficiency increased resistance to pneumococcal infection.

Vitamin C also seemed to play a doubtful part on immunity. The guineapigs which were fed on cabbage in addition to the usual diet, showed a better primary antibody response than those which were given mangolds in place of cabbage.[24] The secondary response was, however, nearly the same in these two groups. It is only a very severe and prolonged deprivation of cabbage which affected the secondary response.[11]

Regarding the effect of vitamin D on immunity a leading article in a contemporary[25] comments: "There is no conclusive evidence, either, that vitamin D has any effect on immunity."

On the whole, the data outlined above suggests that though the results of animal experiments are at variance, direct observations on man shows that undernutrition is not necessarily productive of lowered immunity or a heightened susceptibility to infectious diseases in general.

Thus, the fixed common belief that hunger and starvation affects the immunity mechanism and invites epidemics, is not based on any objective evidence. It is rather the sanitary faults, which prevail during a famine, that seem to be chiefly responsible for the association of famine and pestilence. Sanitary and immunisation measures if strictly enforced during a famine, should perhaps prevent epidemics.

Unfortunately, however, the historical association of famine and pestilence has been so uncritically accepted as the cause and the effect respectively, that nobody is inclined to promote research on this subject. As a result, the whole problem of nutrition and immunity still remains involved, and, hence, no broad generalisations are possible at the present.

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[15] Bloch, C. E.—*J. Hyg.*, Camb., **19** : 283, 1921.
[16] Mellanby, E. and Green, H. N.—*Brit. M. J.*, **1** : 984, 1929.
[17] Webster, L. T.—*J. Exper. Med.*, **52** : 901, 1930.
[18] *J. Path. & Bact.*, **34** : 163, 1931.
[19] Report of the Medical Officer of Health for Glasgow, 1930.
[20] *Biochem. J.*, **13** : 172, 1919.
[21] *J. Hyg.*, Camb., **38** : 356, 1938.
[22] *J. Bact.*, **45** : 85, 1943.
[23] *Arch. Biochem.*, **3** : 321, 1944.
[24] Hartley, P.—*Proc. Roy. Soc. Med.*, **36** : 147, 1943.
[25] Editorial—*Lancet*, **1** : 933, 1953.

CURRENT MEDICAL LITERATURE

Dextran in Renal Oedema

MOLLISON AND RENNIE (*Brit. M. J.*, **1** : 893, 1954) in reporting their experience of treating nephrotic oedema with intravenous infusions of dextran observe :

Dextran was given on 81 occasions to eight patients. All were at rest in bed, on restricted salt intake, and a moderately restricted fluid intake. Seven patients received a high and one a normal protein intake. The dextran was used in a standard commercial 6 per cent salt-free preparation, and three 10 per cent salt-free preparations of large, medium, and small molecular size. Diuresis and delivery of the oedema occurred with all these preparations, regardless of molecular size or concentration, but the effect lasted longest with the large molecular preparation. In all cases the oedema reaccumulated. Dextran had no adverse influence on renal function. Toxic reactions to infusion were noted in all cases, and consisted of severe headaches, occasional nausea and vomiting, and fever; two patients developed transient hepatic enlargement; one patient developed fever, dyspnoea, cough, and scanty rales at the lung bases after the fourth infusion of small-molecule dextran, and another developed the same symptoms though less severely with a similar preparation. The more severe reactor of these two also showed signs of the greatest increase in blood volume of any of the patients in response to the infusion, and this occurred at the time of his reaction; skin tests for sensitivity to dextran were negative. The authors thought that the reactions they encountered were not allergic so much as due to overloading of the circulation, and they found that slowing the rate of infusion reduced the severity of the reaction.

Apart from the reactions of an antigenic of haemodynamic type the authors draw attention to a hitherto unremarked complication to its therapeutic use. Two of their patients suffered impairment of haemopoiesis, which in the more severely affected case persisted for two months after the last infusion of dextran. The authors thought this was due to the fact that the dextran is taken up by the reticuloendothelial system and therefore of the bone marrow and only slowly released and excreted or metabolized. The hepatic enlargement which occurred in two of their cases was presumably from this cause, although histochemical examination of the liver from one case at necropsy failed to reveal the presence of any dextran.

There is little doubt that dextran is a powerful diuretic and may succeed when all other measures fail, but by the very nature of its route of administration and the transience of its effects it is unsuitable for use in domiciliary practice.

Rectal Urethane in Leukaemia

SUHRLAND AND WEISBERGER (*J.A.M.A.*, **154** : 1415, 1954) write :

Urethane is effective in relieving pain in plasmacytic leukaemia (multiple myeloma) and in the treatment of chronic granulocytic (myeloid) leukaemia. Its usefulness, however, has been limited by undesirable side-effects such as anorexia, nausea, vomiting, and diarrhoea. The high incidence of these gastrointestinal symptoms after oral administration of urethane frequently necessitates withdrawal of the drug or reduction in dosage before maximum therapeutic response has been obtained. Therefore, the efficacy of rectal administration of urethane was investigated.

Twenty patients were treated with rectal suppositories containing 1 g. of urethane each in a base of beeswax and theobroma oil. The daily dose was 3-6 g. The therapeutic effectiveness of rectally administered urethane is equivalent to that of orally administered urethane. Urethane administered rectally is as effective as Fowler's solution in spacing irradiation therapy. Undesirable side-effects were minimal. It is concluded that rectal administration of urethane is preferable to oral or intravenous administration.

Artane in Paralysis Agitans

DOSHAY AND OTHERS (*J.A.M.A.*, **154** : 1334, 1954) report on the results of a five year follow-up survey, undertaken to determine the long-term action of trihexyphenidyl (Artane) hydrochloride in 411 patients with paralysis agitans (Parkinson's disease). It was found that the drug was well tolerated by patients with all types of paralysis agitans. Three out of every four patients took the drug for one to five years and derived benefits from it. It is effective against all the symptoms of paralysis agitans, but is especially useful in patients with oculogyria. Trihexyphenidyl successfully controlled that in 84 per cent of the cases.

Trihexyphenidyl can be used alone, but in some cases its effectiveness is enhanced by a suitable combination with other drugs. The increase in tolerance to this drug is small, so treatment may be effectively continued for many years.

Of the listed side-reactions, 150, or two-thirds, were instances of dryness of mouth (101 instances, 24 per cent) and blurring of vision (58 instances, 14 per cent), reactions common to almost all drugs used in the treatment of paralysis agitans. Pharmacological studies conducted by Lederle Laboratories proved that the dryness of the mouth caused by trihexyphenidyl is mild and only 12 per cent of that caused by atropine. When it is employed within therapeutic range, this reaction is rarely a source of disturbance to the patient.

Other side-reactions included 24 instances (6 per cent) of nausea, 18 (4 per cent) of akinesia, 18 (4 per cent) of dizziness, and 15 (3 per cent) of mental confusion. These add up to 75, or 17 per cent, of the patients treated, if each reaction had occurred in different patients. Excessive heat occurred in one patient. It was found, however, that one-third of the patients complained of more than one side-reaction. Hence, the 75 side-reactions may be attributed to 50, or 12 per cent, of the 411 patients.

Pancreatic Extract in Multiple Sclerosis

LOWRY (*Am. J. M. Sci.*, **227** : 259, 1954) gives in the following lines the summary of his observations on the treatment of multiple sclerosis with pancreatic extract :

Eleven multiple sclerosis patients and one with amyotrophic lateral sclerosis were treated with injections of

an insulin and protein-free pancreatic extract for periods from 4 to 18 months. In only one patient had the disease been present less than 5 years, the longest, 20 years. All patients had severe, demonstrable neuromuscular disabilities. In addition, some were psychotic, hospitalized individuals.

Locomotion was benefited in 27 per cent; bladder control, 36 per cent; eye symptoms, 42 per cent. Spasticity and coordination improvement were noted in 56 per cent. Demonstrable increase in speech strength was found in 70 per cent. Endurance was markedly bettered in 83 per cent, and mental improvement, including the psychotic multiple sclerosis patients, in 83 per cent. In some cases, even though there was no improvement, it was evident the progress of the disease was halted. There were no adverse reactions, either local or systemic, to the Depropanex injections, 3 c.c., 3 times weekly. Where improvement occurs, it is not apparent till after 2 months of injections. Maximum benefits may appear after one year's therapy.

The concept of multiple sclerosis as a probable disorder in carbohydrate metabolism is re-emphasized. A possible connection between pancreatic biochemical activity, localized vasospasm, anoxaemia and neuromuscular function is discussed. Further multiple sclerosis research is indicated in the biochemical realm of the so-called 'Krebs cycle' of carbohydrate breakdown; perhaps somewhere at the pyruvic-lactic acid level.

Until a more effective therapy is found, Depropanex deserves an adequate trial in patients afflicted with multiple sclerosis.

Methantheline Bromide on Pulmonary Ventilation

SJOERDSMA AND DODGE (*Am. J. M. Sci.*, **227**: 255, 1954) write that in 8 of 11 patients with bronchial asthma, or pulmonary emphysema, or both, intravenous methantheline bromide (Banthine) was found to produce considerable increase of vital capacity, three-second vital capacity and maximum breathing capacity. The increased pulmonary ventilation was accompanied by symptomatic improvement. These results tend to support previous work implicating automatic factors in the bronchospasm of these diseases.

Chloroquine in Chronic Discoid Lupus Erythematosus

PILLSBURY AND JACOBSON (*J.A.M.A.*, **154**: 1230, 1954) write that in 16 patients with chronic discoid lupus erythematosus treated by administration of chloroquine (Aralen) diphosphate in daily doses of 0·25 to 0·5 g., clinical effects were generally very good, equal, or superior to those obtained with quinacrine (Atabrine) therapy.

During a period of observation varying from 4 to 10 months after the initiation of chloroquine therapy, no significant toxic effects were noted. The absence of pigmentation, which is a very objectionable feature of quinacrine therapy, is a great boon. It is entirely possible that toxic reactions may be seen on repeated or prolonged administration of the drug, and careful observation of patients receiving chloroquine is advisable until the experience with this compound is more extensive. It seems probable that the effects of chloroquine on the skin lesions of discoid lupus erythematosus are suppressant rather than curative, though there is hope that permanent remission may sometimes be accomplished.

Long-Acting Local Anaesthesia in Tonsillectomy

GLASGOW (*Eye, Ear, Nose & Throat Monthly*, **33**: 418, 1954) writes that the need for prolonged anæsthesia in adult postoperative tonsillectomy cases is well known.

Between 0·5 c.c. and 1·0 c.c. of 'Efocaine' solution (containing procaine 1% and butyl-p-aminobenzoate 5% in water miscible solution) was used in each faucial tonsillar fossa or in the lingual tonsillar bed.

A 1 c.c. tuberculin syringe was used with a No. 25 gauge needle (1 inch long), so that the amount of injected material was easily controlled. Efocaine was injected into the deeper submucosal tissue in from 10 to 20 sites on each side (depending on the size of the bed) and in a random pattern which is called a "polka-dot" technique. Each site received between 0·05 c.c. to 0·1 c.c. and not more than 0·1 c.c. maximum. In addition, the following sites were also included: the superior junction of the anterior and posterior faucial pillars; the junction of the anterior pillars inferiorly with the dorsum of the tongue, and the junction of the posterior pillar inferiorly with its attachment to the dorsum of the tongue.

The postoperative course of 50 adult patients was made remarkably easier without exception, and they were able to swallow liquids and soft foods immediately with a minimum of discomfort. Of course, the less the operative trauma, the easier is the postoperative course in any event. But with a combination of minimal operative trauma, and full and judicious employment of Efocaine, the lack of postoperative pain for these patients was extremely gratifying. No retardation nor complication was noted in the wound healing of any of the patients who have been followed postoperatively for as long as 26 months, and as recently as two months.

Intravenous Cholecystography and Cholangiography

BERK AND OTHERS (*Am. J. M. Sc.*, **228**: 361, 1954) give in the following lines the summary of their preliminary observations on intravenous cholecystography and cholangiography, using a new intravenously injected medium currently designated Be-426.

The bile ducts are visualized before the gallbladder becomes opaque and may be detected 10 minutes after intravenous injection of the medium.

Visualization of the gallbladder is of a quality comparable to that obtained after the newer orally administered cholecystographic media. Radiolucent calculi are readily detected and clearly shown.

The common duct and portions of the other major extrahepatic bile ducts may be visualised with a high degree of regularity in patients whose gallbladders have been removed.

Impairment in hepatic function interferes with the secretion of Be-426 into the bile and may result in faint or no visualization of the gallbladder and ducts.

The degree of opacification of the bile ducts is many times faint and the terminal end of the common duct is often poorly seen.

No serious systemic or local reactions were observed in the group of subjects studied.

Intravenous cholecystography and cholangiography may provide a valuable tool for the study of physiologic mechanisms affecting the gallbladder and bile ducts.

Oral Cholangiography

TWISS AND OTHERS (*Am. J. M. Sc.*, **228** : 372, 1954) in a preliminary report on oral cholangiography observe that oral cholangiography is an easily-performed non-surgical procedure of practical diagnostic value.

Indications for its use are : (1) The post-cholecystectomy syndrome, and (2) non-visualization of the gallbladder.

The bile ducts have been visualized in approximately 85 per cent of post-cholecystectomy patients studied to date, exclusive of those having a subsequent choledochoduodenostomy.

With biliary dyskinesia, about 70 per cent of the bile ducts visualized were found dilated.

In post-cholecystectomy patients without symptoms, none of the bile ducts were significantly dilated.

Pathologic conditions such as cystic duct remnants can be detected by this method.

Diabetics Undergoing Surgery

SHUMEN (*J.A.M.A.*, **155** : 621, 1954) writes :

The diabetic patient is considered a safe subject for any type of surgery when modern methods of anæsthesia, fluid and electrolyte replacement, antibiotic therapy, and control of metabolism and nutrition are used. Such methods were used in the management of 350 diabetics undergoing operations. Cardiovascular disease and infection significantly increase the surgical risk in diabetic patients. The use of isophane insulin, alone or together with other insulins, is advocated because of its rapid and prolonged action. In uncontrolled patients or in the presence of severe acidosis, insulin is given in doses determined by the degree of glycosuria until metabolism becomes stabilized. Intravenous feedings, given before, during, and after operation, replace the carbohydrate content of the diet and also correct dietary deficiencies. Emergency surgery is performed whenever indicated, with no more than a brief delay for the institution of treatment when acidosis is present; further deterioration of the metabolic status may be the penalty for delay. No significant advantage has been found in the substitution of fructose for dextrose in intravenously administered solutions.

Cyclizine Hydrochloride in Vertigo

WITZEMAN (*Eye, Ear, Nose & Throat Monthly*, **33** : 298, 1954) writes that cyclizine represents a valuable addition to available drugs for the treatment of vertigo. It is a valuable remedy for symptomatic relief and is specially desirable because its use is not attended by the side effect of drowsiness.

Cyclizine hydrochloride, known chemically as N-benzhydryl-N'-methyl piperazine mono-hydrochloride. It is a white crystalline solid with a bitter taste, soluble in water and in physiological saline solution. Pharmacologically it exhibits both antihistaminic and anti-cholinergic properties. Protection against motion sickness, statistically significant at the 1 per cent probability level, was obtained with doses of 50 mg., three times a day. The incidence of side effects such as headache, drowsiness and dry mouth was approximately the same in the treated and in the placebo groups.

Cyclizine hydrochloride was studied in a series of patients suffering from vestibular vertigo.

Complete relief was obtained by 56 of the 67 patients so treated, while 6 continued to complain of vertigo. Five patients failed to return for follow-up studies. In two patients a typical Meniere's syndrome cleared up completely during treatment. Although valid conclusions cannot be drawn from only two cases, the results suggest that with this new drug the treatment of Meniere's disease may lend itself to conservative rather than to radical measures. Of the 6 patients who continued to experience vertigo, one subsequently was found to be suffering from a brain tumor. Only 3 patients out of the 67 studied made any report of drowsiness. On cyclizine therapy, 95 per cent of patients will remain alert enough to continue their usual occupations without undue hazard. This is of considerable importance, for example, to the truck driver, or the worker of moving machinery.

It appears that cyclizine is a safe and effective drug for the treatment of vertigo and merits further clinical investigation.

Use of Oral Procaine in Pruritus

BEINHAUER (*A.M.A.Arch.Dermat. & Syph.*, **69** : 188, 1954) reports that one hundred forty-five patients with 23 pruritic dermatoses were treated orally with procaine hydrochloride and ascorbic acid for the relief of pruritus. Reactions occurred in 12 patients (8·2 per cent) and were minor, consisting of headache, dizziness, nausea, drowsiness, and vomiting. These were readily controlled by withdrawal of the drug and did not recur on readministration. In patients in whom response was favourable, relief was obtained within four days after treatment was begun. No evidence of adverse systemic effects was noted when the drug was given over long periods of time. Therapy with procaine given orally gave complete relief in 22·2 per cent of the patients, gave temporary relief in 27·9 per cent, and failed in 49·9 per cent. Oral medication with procaine hydrochloride and ascorbic acid gave most effective response in the treatment of urticaria (penicillin), herpes zoster, and burning tongue. In general, the effectiveness of orally administered procaine for the control of pruritus did not exceed that of other recognized therapies prescribed for the same purpose in similar dermatoses. Procaine can be administered orally with safety and warrants a trial when other therapy fails. The author's results did not rate in merit with the enthusiastic results reported previously by other clinicians.

NOTES AND NEWS

Calcutta's Lead in Medical Education Appreciated

Dr. M. G. Candau, Director-General of the World Health Organization, who is on a visit to South-East Asia speaking at the All-India Institute of Hygiene and Public Health said he was fully aware of the extraordinary position Calcutta held as a centre of medical education and learning by possessing four medical colleges and two other specialized medical teaching institutions of international reputation.

Because of this unusual concentration of medical schools and activities, Calcutta was destined to play a leading role in developing the science of medicine for India's benefit as well as for that of neighbouring countries. Already, many foreign students came to Calcutta to find instruction which they could not find at home. However, the potentialities Calcutta held for the advancement of medicine, for the promotion of modern concepts of medical education, and for the furthering of research on a regionwide basis had hardly begun to be utilised.

Developments in Asia had resulted in far-reaching consequences in all ways of life including medical and health spheres. Health measures and services were being greatly extended and this required more fully trained personnel.

Already the basic medical sciences in Calcutta had acquired their rightful place alongside the clinical ones and there was no doubt that there existed in a number of institutions a favourable "scientific climate", and research was being conducted on an appreciable scale.

Here also was the only school in the region capable of training fullfledged public health specialists. This in itself gave Calcutta unique distinction. However, for many decades to come, the total number of public health specialists it could train would not be enough to cope even with the public health needs of a vast country like India. A great deal of this public responsibility would have to remain with the ordinary general practitioner, who would often have to assume also some or all of the functions of a public health officer.

Because of the great need of public health personnel in South-East Asia and, apart from Calcutta, the paucity of specialised training facilities, there was the compelling necessity to find a proper balance not only in the training but also in the practice of medicine, between the preventive and the curative aspects. If such a solution was found, it would be a step forward in medical progress well in advance of medical practice in the so-called advanced countries.

W. German Medical Delegation in India

A ten-member West German delegation on a study tour in India is led by Mr. H. V. Meyernick, a business man and the delegation consists of seven doctors attached to different West German hospitals, besides an economist and another business man.

Dr. Rudolf Sann, an expert in cancer of the larynx said that one of the main objects of their visit to India was to study the adaptability of Ayurvedic medicines to modern times.

Role of Medical Research in Community Welfare

While inaugurating the meeting of the Scientific Advisory Board of the Indian Council of Medical Research and its Advisory Committees at Baroda on November 22, 1954, the Union Health Minister, Rajkumari Amrit Kaur said "No Government can afford to ignore or belittle the contribution of medical research towards the furtherance of community welfare and I do hope that with the steady improvement of the economic status of the country, medical education and active research in close association with it will receive increasing and unstinted support."

She further said "medical colleges in India are today woefully lacking in the will on the part of the majority of teachers for undertaking research and in facilities for doing so. The position requires to be remedied as early as possible. The creation of the necessary facilities will require action in several directions. At least one unit, on a wholetime basis and adequately paid to permit of the prohibition of private practice, will have to be established in every department of each medical college. In addition, improvements in the way of increased accommodation and additional equipment may be required. Provision for the employment of junior workers and for contingent expenditure will also be necessary."

"Most of the medical colleges in the country", Rajkumari Amrit Kaur said, "are maintained by State Governments. It was therefore very desirable that State Governments should provide in the budgets of these medical colleges definite sums of money to be devoted to the development of research. Many of the problems undertaken for study may be of immediate and of special interest to the State concerned and it was therefore right and in fact it was necessary that appropriate financial provision should be made by State Governments to further research in the institutions under their control". She added: "When research undertaken in individual colleges expands it will I think, become necessary to establish in each institution a committee for co-ordinating research and to have a professor of sufficient standing and experience to function as the overall co-ordinator of such activities."

CORRESPONDENCE

The Editor is not responsible for any views expressed by correspondents

Epidemic Encephalitis in South India

SIR,—In view of the fact that South India was not mentioned in the leading article on the subject of Epidemic Encephalitis (*J. Indian M. A.*, *14*: 23, October 1, 1954) we felt that our experience of this disease should be made known.

An epidemic of influenza had been in progress here in Mysore City during the same time. We feel therefore, that the same virus may be responsible for the encephalitis as for the various types of influenza we have seen.

We made a diagnosis of epidemic encephalitis in 12 children with ages ranging from 1 month to 11 years. There were 6 of each sex. Of these 12 children 5 died. Those who recovered appear to have done so completely.

The clinical picture varied a good deal. The number of days of illness before the onset of cerebral symptoms ranged from 0-10. In two cases fever was absent altogether. All except 3 had convulsions and of the remainder one had partial loss of speech for a few days, another became comatose gradually and died, and the third had delirium and severe pains in the thighs. Vomiting was noted in 5 patients.

A leucocytosis above 13,000 c. mm. was found in 6 cases and 3 of the 5 deaths occurred in this group. The differential count was normal in majority.

The cerebrospinal fluid in all cases was clear. In 8 cases the pressure increased on at least one occasion. In six cases there was an increase in cells varying from 7-252 c.mm., lymphocytes predominating. The chloride was over 600 mg. per cent in all cases. The sugar content was normal in eight cases. Three others gave 27, 29 and 46 mg. per cent respectively at the first examinations, but 2 of these died before a repeat examination could be done. Globulin was present in 4 cases, 3 of whom died. Course of the disease varied a great deal. One girl died on the first day of the disease with hyperpyrexia within 8 hours of the onset. The other deaths occurred within a few days. In those patients who recovered, the duration of the fever varied, in some lasting up to 2—3 weeks; in one case there was a relapse of the fever, but the cerebral condition remained normal. In no case was there paralysis suggesting paralytic poliomyelitis. I am etc.,

Paediatric Department,
Holdsworth Memorial
Hospital, Mysore.

D. E. MARGARET PIERCE,
M.B., CH.B., D.CH.

Blood Bank at Kandi

SIR,—I have great pleasure in informing you that we have now a regular Blood Bank at Kandi. I hope, our example will inspire people of other places to have blood banks of their own.

In the history of development of a blood bank in a mofussil town, organised through private enterprise, perhaps this is one of the very few of its kind in this country.

The first blood-transfusion at Kandi was given to a lady in October 1952. I was, encouraged by the result obtained, but also met with considerable difficulty for lack of facility and equipment. I consulted the Medical Officer in charge of Calcutta Blood Bank in November 1952 and discussed the possibility of having a blood bank of our own.

With seventy five donors, a register was opened in March 1953. Our donors have been enthusiastic and I have been requested by a number of our donors to send for them when demand for blood arises.

The financial position of Kandi Blood Bank leaves much to be desired and a number of improvements cannot be undertaken unless more generous donations are forthcoming. I am etc.,

SATCHIDANANDA GHOSH,
M.B., D.T.M., D.P.H.
Hony. Secretary, I.M.A.,
& Hony. Secretary, Blood Bank.

Kandi,
Murshidabad.

E.S.I. Scheme in Bombay

SIR,—The E.S.I. scheme has been started in Bombay from 2nd October 1954. I am one of the insurance medical practitioners. The present capitation fee of Rs. 6/8 is calculated on the basis of 2·5 to 3 per cent sickness. In my case, attendance of the insured workers comes to 8 to 9 per cent. Will anybody suggest how to check this high sickness rate which has recently flared up among the insured workers so that sickness percentage may be brought to 3 per cent?

Will anybody also suggest to check the number of certificates which are demanded under the wrong pretext by the insured workers so that days of disablement and sickness benefit are reduced and the production is thereby increased. I am etc.

Santacruz,
Bombay.

(DR.) CHIMANLAL O. SANGHAVI.

REVIEWS

The Basis of Mind.—By Tarit Sarkar. 48 pages. Indian Institute of Psychology, Calcutta, 1954. Not for sale.

This small booklet contains four chapters. Mr. Sekhar Sen writes in the preface "after having gone through this book, the reader will no longer find mind as something vague and undefined, instincts as 'mythical beings' and the interpretation of dreams as mere philosophical speculations which many intellectuals maintain even to-day". Unfortunately, the reviewer is afraid he has not gone far ahead of his impression on mind on perusing the book. In the second chapter there is an analysis of several dreams but these are not numbered. In the third chapter there is a discussion on mental patterns of behaviour. On page 36 the author says that fear and anger have inhibitory influence on positive activity. But these emotions are not always inhibitory in nature; at times they give rise to positive activity i.e. they help the organism to adapt itself to changes in the environment. In page 38 is found the statement that anger and fear are highly complicated negative acts of the brain level. These are in fact emotions which have their centres in the diencephalon i.e. the hypothalamus and the thalamus. The only diagram on page 40 does not make matters simplified. In the concluding remark the author asserts in psychoses, which is (are) a total failure of personality, the endocrine balance is somehow affected. From the nature of the remark it is palpable that we are as yet quite innocent of the knowledge of such endocrine balance in psychoses. The book has several printing errors. There is no index of references of the books from which the author has drawn his quotations. Further, dream is only one accessory method of studying a person but in order to know a person thoroughly his whole personality has to be considered in detail. Any way, in spite of these drawbacks the reviewer welcomes books of this kind which want to throw some light on the working of man's mind.

Text Book of Medical Treatment.—By various authors. Edited by D. M. Dunlop, L.S.P. Davidson, I. McNee. E. & S. Livingstone Ltd., Edinburgh and London, 6th Edn., 1953, pp. 1023. 50 shillings.

The book is divided into different chapters dealing with management of diseases of different systems. There are special chapters on chemotherapy, antihistaminic drugs, dehydration and electrolyte deficiencies, geriatrics, diseases of infancy and childhood, chemotherapy of malignant diseases, psychotherapy in general practice, and on technical procedures and oxygen therapy.

Before the authors actually deal with the management of individual conditions there is in many instances an introductory note, covering from a single paragraph to several pages. The introductory remarks are lucid, easy to follow, and are helpful. In a few words, some aspects of recent advances in the particular subject have often been summarised, in others a classification of the diseases affecting the system has been incorporated.

Throughout the book, the prophylactic aspects of treatment as needed by a practitioner have been stressed.

The greater part of the book is devoted to the actual management of cases and all aspects of the management have been clearly and concisely dealt with. There is not a redundant word, and yet the information given is extensive. In a few instances cross-references have been necessary. For instance in the treatment of bacillary dysentery (p. 20) one is referred to p. 71, 'chapter on sulphonamides). Unfortunately in this particular instance the dosage schedule of sulphonamide of low solubility and the length of treatment are not clearly laid down. Probably as the use is limited practically to bacillary dysentery a few lines about the details of their use in the chapter would have been appreciated.

One does not expect in a book of this nature full details about the management of tropical diseases and yet the information contained is of extreme value, and reflects modern crystallised knowledge about the treatment. The treatment of anuria due to blackwater fever has been brought in line with treatment of anuria of lower nephron nephrosis and Bulls regime has been recommended. Whether Hetrazan has solved the problem of a satisfactory therapeutic agent in filariasis is doubtful. Its capacity for making the microfilariae disappear from the blood is however undisputed. The chapter on the treatment of kalazar is unduly brief.

The book has gained in stature and popularity with each edition, and the information it gives is accurate and up-to-date. It is a book which every practitioner should possess.

Atlas of Descriptive Human Anatomy.—Dr. Med. J. Sobotta. Edited and translated by Eduard Uhlenhuth, PH.D.; Vol. III. Blood Vessels, Nervous System, Sense Organs—Integument and Lymphatics. 5th English Edition, 1954. Hafner Publishing Company, Inc., New York. Pp. 390. Price £6-5-0d. Distributed by Lange, Maxwell & Springer Ltd., 242, Marylebone Road, London NWI, and 122, East 55th Street, New York 22.

Sobotta's Atlas of Human Anatomy is a classical book and widely known for nearly half a century. This well known Atlas in its present edition contains 373 illustrations—164 coloured, 142 in black and white and 67 partially coloured figures. The plates, particularly coloured ones, are beautiful and cannot be improved upon and will go a long way to help the student of anatomy both under-graduate and post-graduate to correlate basic facts with dissection. Faultlessly printed, nicely bound and beautifully illustrated with excellent figures, the book makes an attractive volume. All the illustrations are original and their reproduction excellent—the volume maintains the high standard set in previous editions. Although the text has been kept to a minimum, it is concise and adequate. For special commendation, should be mentioned the section on nervous system. The book is highly recommended to every student of anatomy to serve as an excellent guide during his study of human anatomy. This book should provide a ready reference for all teachers of anatomy.

The Public Health Inspector's Hand Book (formerly the the Sanitary Inspector's Hand Book)—By Henry H. Clary, F.R. SAN. I., F.I.S.E., with the assistance of R. Williams, O.B.E., D.P.A., F.R. SAN. I., F.S.I.A. Eighth Edition, 1954. Published by H. K. Lewis. London, pp. 608+XX and 101 illustrations. Price 30s.

This book originally published in 1933 as a handbook for the Sanitary Inspector now appears, revised and enlarged, under a new title "Public Health Inspector's Handbook" in accordance with the recommendation of a "working party" that the designation of sanitary inspector be changed to public health inspector. The fact that eight editions of this book have been published within the course of twenty years of the original publication speaks of its high quality and popularity, and is an evidence that scientific progress has not been allowed to onstrip practice.

As is well known, this book is really a comprehensive, though concise, treatise on the subject. The first nine chapters of a total of 32 deal mainly with the acts, statutes and bye-laws of the Public Health Acts operating in Great Britain, for which the sanitary inspectors have responsibility. The remaining chapters are devoted to the hygiene of the building, lighting, ventilation, heating, water, drainage, sanitary fittings and plans, conservancy and sewage disposal, refuse disposal and public cleaning, milk and dairies, food control and preservation, control of infectious diseases, disinfection, elementary vital statistics, etc. There are 101 illustrations and a glossary of building terms. In this edition, every chapter has been revised and new matter added, and the value of the book further enhanced by the active assistance of the veteran sanitarian, Mr. Ronald Williams.

The book is an admirable edition not only as a text book and training manual for beginners but also as a

reference source to assist the sanitary inspectors, public health officials and workers with technical and legal problems that arise in connection with sanitation. In fact, the book covers a much broader range of practices than are normally considered to be within the scope of environmental sanitation. Although some of the legal aspects may not be directly applicable to the Indian students the principles and the technical descriptions will be of great value, particularly to those who are undergoing training in Public Health, Sanitary Engineering, Sanitary or Public Health Inspectors' Course etc. The public health officers will also find it worthwhile to possess the volume.

Materia Medica of Pharmaceutical Combinations and Specialities—By U. B. Narayanrao. Fifth Edition, 1954. Published by the Medical Digest, Bombay-4. Demy Octavo, pp. 421, board-bound. Price Rs. 15/12.

First published in 1932 this book now appears in its fifth edition after twenty-two years. These facts evidently speak well of the handy usefulness of this book which is the result of obvious painstaking compilation of data and information about a huge number of proprietary preparations manufactured and marketed by a host of pharmaceutical concerns—big and small. It cannot be denied that medical practice today has deviated very widely from the so-called ideal of prescribing official pharmacopoeial preparations only. Everyone throughout the country is prescribing a large number of patent proprietary preparations; and it naturally becomes extremely difficult for the busy practitioner to keep in mind the ever increasing number of newer and newer combinations and preparations. This volume will be of great help to the practitioners who may have occasion to refer to this ever increasing list of proprietary prepations and specialities.

Section VI on "General Information" in pp. 405-418 contains valuable every-day information for the busy practitioner similar to those found in medical diaries.

The 1953-54 Year Book of Eye, Ear, Nose & Throat—Published by the Year Book Publishers, Inc., Chicago, U.S.A., Price $6.00 postpaid.

Covering a total of 455 pages, this volume of the "Year Book", under the able editorship of Prof. Derrick Vail (Eye) and Prof. John R. Lindsay (E.N.T.) reviews the progress in available 12 months' literature in continuity with the 1952 "Year Book" of these subjects. In conformity with other well-known volumes of "Year Book" the present volume offers the reviews to the reader in several convenient chapters thus helping the reader to follow the subject in a rational way. Paper, binding, printing and get-up, including the reproduction of photographs—all uphold the tradition so well established by the family of "Year Books".

Chikitsa Jagat—Silver Jubilee Number, November 1954.—Published from 27C, Upper Circular Road, Calcutta-9. pp. 160. Price Rs. 2/- only.

Medical journals in scientific medicine started appearing in India much later than in the West. Towards the beginning of the twentieth century, a few journals were being regularly published from the different centres of learning of scientific medicine in India. Later on, there have been attempts to publish scientific medical journals—in the regional languages—in some parts of India. Very few of them have been able to go on or survive long. Published in Bengali, one of the richest zonal languages in India, this scientific medical journal, *Chikitsa Jagat,* has maintained its uninterrupted publication through a quarter of a century. This itself is really creditable, considering the odds. The present Silver Jubilee Number has been ably produced with a large assortment of well-known articles from specialists in the different branches of medicine. These articles are up to date and instructive, and will help spread scientific medical knowledge further, through the medium of the zonal language—Bengali. Paper, printing, get up and binding are very good indeed.

Kinderorthopadie—By Rupprecht Bernbeck. Publisher: Georg Thieme Verlag. Stuttgart, 1954.

Not only that orthopedics has developed into a special branch of surgery, it is now even the orthopedics of the child which claims independence as a special field of practical medicine. There is one point very much in favour of orthopedics of the child being a distinct entity in itself and the point emerges very clearly from Bernbeck's book: orthopedics of the child is much more a field of preventive than of curative medicine. In illustrating scope, possibilities and diagnostic as well as therapeutic—preventative measures, the book fulfils very well the requirements of a modern and useful text in that field. Everybody who is concerned with the problems of making our society healthier and life for our children more enjoyable should pay attention to the problems of orthopedics of the child for which the book of Bernbeck is a competent and well illustrated guide.

Indigenous Medicinal Specialities—By U. B. Narayanrao. Introduction by K. S. Mhaskar. First edition, reprinted 1953. Published by The Medical Digest, Bombay-4. Price Rs. 7/8.

This is a small pocket compendium showing a compilation of various information—often in a sketchy way. There are eight sections, the first of which starts with various "lists of abbreviations" and the seventh deals with "specialities having indigenous drugs in them". The last section is a "therapeutic index" of these indigenous medicinal specialities, similar to the ones we often receive from the individual manufacturers of scientific (Western or "allopathic") system of medicine.

XXXI ALL-INDIA MEDICAL CONFERENCE, LUCKNOW

The 31st All-India Medical Conference will be held at Lucknow on the 26th, 27th and 28th December, 1954. The Working Committee of the Indian Medical Association will meet on the 23rd and 24th December, 1954 and the Central Council on the 24th and 25th December, 1954. An Exhibition will be held on the occasion and a Souvenir will be published.

Delegates and members wishing to attend the Conference should apply to the respective Provincial Secretaries, I.M.A., or to the General Secretary, Reception Committee, All-India Medical Conference, Charbagh, Lucknow, for the necessary certificate on production of which at the nearest D.T.S. Office, single fare double journey concession authority slip for any class will be obtained. Concession tickets will be issued by the railway booking office against production of the slip.

Delegates and visitors are also requested to bring proper warm clothing, full bedding and mosquito nets. Boarding charges will be approximately Rs. 8/- per day. Intending delegates and visitors should communicate to the General Secretary, Reception Committee, the date of their arrival at Lucknow, before the 18th December, 1954. A copy of this intimation should also be sent to the respective provincial and local branch secretaries.

PROVISIONAL PROGRAMME

Venue : King George's Medical College, Lucknow.

23rd December, 1954	
10 A.M. to 1 P.M. ...	Working Committee meeting
1 P.M. to 2-30 P.M. ...	Interval for Lunch
2-30 P.M. to 4-30 P.M. ...	Working Committee meeting
4-30 P.M. to 5-30 P.M.	Afternoon Tea
6 P.M. to 8-30 P.M. ...	Working Committee meeting
8-30 P.M.	Break for Dinner
24th December, 1954	
8 A.M.	Breakfast
10 A.M. to 1 P.M. ...	Working Committee meeting (if required).
1 P.M. to 2 P.M. ...	Interval for Lunch
2-30 P.M. to 4-30 P.M. ...	Annual Meeting of the Central Council
4-30 P.M.	Afternoon Tea
6 P.M. to 8-30 P.M. ...	Annual Meeting of the Central Council
8-30 P.M.	Break for Dinner
25th December, 1954	
8 A.M.	Breakfast
9 A.M. to 1 P.M. ...	Annual Meeting of the Central Council
1 P.M. to 2 P.M. ...	Interval for Lunch
2-30 P.M. to 4-30 P.M. ...	Annual Meeting of the Central Council
4-30 P.M.	Afternoon Tea
6 P.M. to 8-30 P.M. ...	Annual Meeting of Central Council (if required)
8-30 P.M.	Assemble for Dinner
26th December, 1954	
8 A.M.	Registration of delegates, members and visitors
	Breakfast
10-30 A.M. to 1 P.M. ...	Welcome address by Dr. B. B. Bhatia, Chairman, Reception Committee
	Inauguration by Pt. G. B. Pant, Chief Minister, Uttar Pradesh
	Presidential address by Dr. S. C. Sen
	Messages
	Opening of Industrial Exhibition by Sri C. B. Gupta, Minister of Health, U.P.
	Thanksgiving
	Formation of Subjects Committee
1 P.M.	Interval for Lunch
2-30 P.M. to 4-30 P.M. ...	Inauguration of Scientific Session
4-30 P.M. to 5-30 P.M. ...	Interval for Afternoon Tea
6 P.M. to 7 P.M. ...	Lectures
8-30 P.M.	Break for Dinner
	Subjects Committee meeting (after dinner)
27th December, 1954	
8 A.M.	Breakfast
9-30 A.M.	Scientific Session
1-30 P.M.	Interval for Lunch
2-30 P.M.	Scientific Session
4-30 P.M.	Interval for Afternoon Tea
6 P.M.	Scientific Session/Subjects Committee meeting
8-30 P.M.	Dinner by the Reception Committee
28th December, 1954	
	Breakfast
	Scientific Session
	Interval for Lunch
	Open Session of the Conference
	Interval for Afternoon Tea
	Lectures/Ordinary Meeting of the Central Council
	Break for Dinner.

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1. Scheie, H. G., Tyner, G. S., Buesseler, J. A., and Alfano, S. E.: *A. M. A. Arch. Ophth.* 45:301, March 1951.

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SUPPLEMENT
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ASSOCIATION NOTES

I.M.A. WORKING COMMITTEE

Proceedings of the 52nd Meeting of the Working Committee of the Indian Medical Association held at Bangalore on 21st and 22nd October, 1954.

(Subject to confirmation)

Members present—

(a) *Ex-Officio members* :

1. Dr. D. V. Venkappa (Madras)—Senior Vice-President (in the chair). 2. Dr. B. V. Mulay (Sholapur)—Immediate Past President. 3. Dr. S. Samaddar (Patna)—Vice-President. 4. Dr. B. L. Kapur (Ludhiana)—Vice-President. 5. Dr. A. P. Mittra (New Delhi)—Honorary General Secretary. 6. Dr. R. Sinha (Calcutta)—Hony. Secretary, Journal, I.M.A.

(b) *Representatives from State/Territorial Branches of of the I. M. A.* :

7. Dr. B. S. Reddy (Nellore), 8. Dr. M. V. Krishna Rao (Vizagapatnam), Andhra State Branch; 9. Dr. P. C. Duarah (Gauhati), Assam State Branch; 10. Dr. (Major) H. C. Mallick (Dhanbad), 11. Dr. A. K. Sen (Patna), Bihar State Branch; 12. Dr. A. K. Bose (Calcutta), 13. Dr. K. K. Sen Gupta (Calcutta), 14. Dr. B. K. Ghosh (Barrackpore), 15. Dr. Sukomal Sen (Calcutta), Bengal State Branch; 16. Dr. U. B. Narayana Rao (Bombay), 17. Dr. C. S. Thakkar (Bombay), Bombay State Branch; 18. Dr. Pran Nath Anand (Delhi), Delhi State Branch; 19. Dr. K. H. Haradhwala (Surat); 20. Dr. A. P. Shukla (Ahmedabad), 21. Dr. S. M. Rao (Kalol), Gujarat and Saurashtra Territorial Branch; 22. Dr. S. W. Hardikar (Hyderabad), Hyderabad State Branch; 23. Dr. G. V. Joshi (Hubli), 24. Dr. B. K. Modak (Kalyan), Maharashtra and Karnatak Territorial Branch; 25. Dr. T. K. Dayalu (Bangalore), 26. Dr. P. D. Krishnaswamy (Bangalore), Mysore State Branch; 27. Dr. B. K. Vinchure (Nagpur), Madhya Pradesh State Branch; 28. Dr. R. A. Bhagwat (Indore), Madhya Bharat State Branch; 29. Dr. Sain Das Vohra (Amritsar), Punjab State Branch; 30. Dr. T. S. Balasubramanyam (Trichy), 31. Dr. R. Sankaran (Madras), Madras State Branch; 32. Dr. H. N. Shivapuri (Kanpur), 33. Dr. S. N. Saxena (Kanpur), U. P. State Branch.

(c) *Co-opted members* :

34. Dr. Chamanlal M. Mehta (Bombay), 35. Dr. F. C. Shori (Amritsar), 36. Dr. Ved Prakash (New Delhi), 37. Dr. U. Krishna Rau (Madras), 38. Dr. G. S. Melkote (Hyderabad).

(d) *Invited members* :

39. Dr. C. V. Natarajan (Bangalore), 40. Dr. M. Sirsi (Bangalore), 41. Dr. Md. Shafi Mehkri (Bangalore).

In the absence of the President, Dr. S. C. Sen who was abroad, the Senior Vice-President, Dr. D. V. Venkappa, now the acting President, occupied the chair.

1. *Condolence Resolution* :

The following condolence resolution was unanimously passed, all members standing and observing silence for one minute :—

"This meeting of the Working Committee of the Indian Medical Association places on record its deep sense of sorrow at the sad demise of the following members of the Association and conveys its heartfelt sympathy to the members of the bereaved families :

1. Dr. D. G. Desai (Vapi), 2. Dr. B. B. Vaidya (Baroda), 3. Dr. Madhava Panickar (Kottayam), 4. Dr. K. C. Upadhya (Kanpur), 5. Dr. R. G. Randive (Mankad), 6. Dr. M. Sundaram (Malabar), 7. Dr. N. Achuthan (Malabar), 8. Dr. M. S. Wagle (M. & Karnatak), 9. Dr. S. P. Saxena (Alwar), 10. Dr. A. E. John (Kottayam), 11. Dr. Ishwardas Bhatia (Amritsar), 12. Dr. R. G. Dhayagude (Bombay), 13. Dr. Wadhawan (Kanpur), 14. Dr. J. C. Das (Gauhati), 15. Dr. I. B. Chaudhuri (Barrackpur), 16. Dr. (Maj. Gen.) A. C. Chatterji (Calcutta), 17. Dr. P. K. Ganguli (Calcutta), 18. Dr. Raghavendra Rao (Hyderabad)."

2. *Messages of inability to attend the meeting* :

Messages of inability to attend the meeting received from the following members were read :—

1. Dr. S. C. Sen (New Delhi), President, 2. Dr. S. N. Mitter (New Delhi), Hony. Joint Secy., 3. Dr. J. N. Bahadur (New Delhi), Hony. Joint Secy., 4. Dr. H. R. Dawar (Delhi), Hony. Treasurer, 5. Dr. P. K. Guha (Calcutta), Editor, J. I. M. A., 6. Dr. P. K. Chatterjee (Calcutta), 7. Dr. Ram Rakha Dheer (Jullundur), 8. Dr. P. R. Trivedi (Ahmedabad), 9. Dr. C. P. Bhat (Bhavnagar), 10. Dr. C. O. Karunakaran (Trivandrum), 11. Dr. R. C. Goulatia (Delhi), 12. Dr. J. Majumdar (Calcutta), 13. Dr. Damodar Prasad (Patna), 14. Dr. P. B. Mukherjee (Calcutta)—Co-opted, 15. Dr. A. C. Banerjee (Lucknow).

11. *Election of President and 3 Vice-Presidents of the I.M.A. for the year 1954/55.*

At the direction of the chairman, item No. 11 was taken up first, and the following were appointed as scrutineers to scrutinise the ballot papers and to count the votes received from members through the local branches for the election of the President and the three Vice-Presidents for the ensuing year :—

1. Dr. R. Sinha (Calcutta), 2. Dr. B. L. Kapur (Ludhiana), 3. Dr. Sain Das Vohra (Amritsar), 4. Dr. A. P. Shukla (Ahmedabad), 5. Dr. B. S. Reddy (Nellore).

The scrutineers were given instructions to carry on with their work while the Working Committee proceeded with the rest of the Agenda.

Dr. A. P. Mittra, the Hony. General Secretary, explained the position arising out of the various circulars issued as regards the number of votes which were to be cast for the election of the 3 Vice-Presidents. He also explained that the date of receiving the ballot papers had to be extended by the President to 15th of October, 1954. He also informed the Committee that the second

ballot papers were printed in red ink and were marked 'D' after the serial number, to avoid any confusion.

In this connection, the Honorary General Secretary informed the house about the objections raised by one member of the I.M.A. who was a candidate for the Vice-Presidentship and about his various suggestions. The Hony. Gen. Secy. explained that since the President Dr. Sen was out of India, copies of all the correspondence were sent to Dr. Venkappa, the Senior Vice-President for his information and necessary action. Dr. Venkappa approved of all the action taken from the Central Office and also wrote to the members concerned.

To Dr. Joshie's query whether any branch had objected to the procedure, the reply was in the negative.

On the proposal of Dr. H. N. Shivapuri (Kanpur) which was seconded by Dr. B. K. Vinchure (Nagpur), the Committee approved of the action taken by the President and the Central Office in this matter.

The Honorary General Secretary informed the Committee that the ballot papers received from the following three branches were received in the Central Office on the 18th of October, 1954, *i.e.* 3 days after the last date fixed for receiving them.

1. Orai Branch (Uttar Pradesh), 2. Baripada Branch (Orissa), 3. Biratnagar (Direct).

The Committee decided to reject all these three ballot papers.

3. *Confirmation of the Proceedings of the last meeting of the Working Committee held at Jaipur on the 24th and 25th July, 1954 (Copy circulated to members)* :

Dr. A. K. Bose (Calcutta) pointed out that in item 15 of the proceedings under consideration, a point had been missed and that is that the Dhanbad Branch was to prepare a Memorandum which was subsequently to be considered by the three State Branches, namely, Bengal, Bihar and Madhya Pradesh, for drawing up the final recommendations. This was agreed to.

Dr. H. N. Shivapuri (Kanpur) then proposed that the proceedings of the Jaipur meeting with the necessary corrections, be approved. Dr. B. K. Modak (Kalyan) seconded the proposal.

The Minutes were then confirmed.

4. *Business arising out of the proceedings of the last meeting.*

(1) *Spirituous Preparations Bill.*

The Honorary General Secretary informed the house that the Sub-Committee had not yet been able to meet and that no information had so far been supplied by any branch in response to the circular issued from the Central Office. There was a request from Dr. H. N. Shivapuri of the U.P. State Branch that the Sub-Committee be given a little more time, so that along with the matter that was to be discussed by it, it could also take into consideration the Report of the Pharmaceutical Enquiry Committee which was now available.

Dr. K. K. Sen Gupta (Calcutta) informed the house that the Government of India had prepared a Bill and that this Bill incorporated all the main points which the Sub-Committee had been charged with to go into.

Dr. S. Samaddar (Patna) proposed that in view of this situation, the Sub-Committee should be given an extension of time so that its Report might be ready by about a fortnight before the next meeting of the Working Committee. It was accepted by the house.

(2) *Letter No. 654 dated 14-12-54 of Dr. B. V. Mulay regarding Coal Mines Labour Welfare Committee.*

Dr. H. C. Mallick (Dhanbad) regretted that the Working Committee should have remarked in its proceedings of the previous meeting in item 15 of the Agenda that the Dhanbad Branch had by-passed the Central Office and the State Branch by independently sending a deputation to the Union Labour Minister. He explained the circumstances why the Dhanbad Branch had to do so due to shortage of time and other considerations.

At this stage, Dr. B. V. Mulay (Sholapur) explained the procedure which was adopted. He said that during his term of presidentship, he had written straight to the Government of India on this matter, at the request of the Dhanbad Branch, as it was considered urgent and time was short.

After due consideration, it was decided that now the Dhanbad Branch should prepare the necessary Memorandum and submit it to a joint Fact-Finding Committee consisting of representatives of Bengal, Bihar and Madhya Pradesh State Branches.

(3) *Licentiates and the Medical Academy of Vienna* :

Dr. A. P. Mittra, the Honorary General Secretary read out a letter of the Government of India, Ministry of Health, in which they had said that the matter was under consideration and that the Association will be informed in due course. He also read out a letter which had just been received by hand from Dr. A. N. Roy who had been asked at the Jaipur Meeting to get more first-hand information and other particulars. He also gave a résumé of the contents of the other letters with regard to this subject.

Dr. M. Sirsi (Bangalore) explained in more detail, the position obtaining in Vienna, as he had recently been there and had a fairly good idea of the situation there.

Dr. H. N. Shivapuri (Kanpur) suggested that the Central Office should communicate directly with the University of Vienna for further clarification.

The President suggested that the clarification had to come from the Government of India as to when and why did they advise the Academy of Vienna to stop enrolling Indian Licentiates for post-graduate courses, which is so clearly stated in the letter written by the Academy authorities to Dr. K. Chatterjee.

The Committee directed that the Central Office should pursue the matter further with the Government of India, Ministry of Health.

(4) *Matters re : the Employees State Insurance Corporation.*

This subject was taken up on the second day of the meeting when Dr. Chamanlal M. Mehta (Bombay), the I.M.A. Representative on the Employees' State Insurance Corporation and Dr. C. S. Thakkar (Bombay), the I.M.A. representative on the Medical Benefit Council of the Employees' State Insurance Corporation, spoke and gave full information regarding the present position.

Dr. C. S. Thakar (Bombay) gave the details of how the scheme was put into force in Greater Bombay and described the various drawbacks of the rules framed and difficulties of the Insurance Medical Practitioners in functioning efficiently. He also gave some instances, where the rules framed by the State Government were not in keeping with the agreement arrived at between the Indian Medical Association and the Corporation. He said that the maximum number on each panel is increased to 2,000 in some areas and that Specialists are taken up on part-time service basis, which is adverse to the spirit of the panel system agreed upon in Greater Bombay.

Dr. Chamanlal M. Mehta (Bombay) said that beyond accepting the capitation terms of the agreement, the Government of Bombay was not respecting the agreement arrived at between the Indian Medical Association and the Corporation. The Bombay Government did not accept our co-operation while preparing detailed rules for rendering medical service by the Insurance Practitioners, in starting diagnostic centres and appointing the staff for them and in securing and reserving hospital beds in Government and private hospitals. The result has been that dissatisfaction has developed in the medical profession. Even proper functioning of the Doctors is not possible. Though the panel system has been accepted for Greater Bombay, it was not extended to Specialists' services and to hospitalization and maternity services. They have adopted part-time services for a few Specialists, whose selection does not

appear to have been based on any fixed basis. The same is the case with selection of non-government hospitals and maternity homes. A representation was made to the Labour and Health Minister, Bombay. He said in clear terms that he was not bound by the agreement arrived at by the Indian Medical Association with the Corporation. He might accept any item of the agreement that suited him. The Officials also have adopted the same attitude and are treating the medical profession and the Indian Medical Association curtly and sometimes with lack of courtesy.

This matter was placed before the Corporation by him at its last meeting on the 15th October 1954 and a definite answer was demanded as to what were the relations between the State and the Corporation. The Minister of Labour who presided, advised the Medical profession to give him some time to acquaint himself with the state of affairs and he would try to smoothen out the difference and improve the condition. Dr. Mehta also took the opportunity of meeting the Chairman of the Standing Committee, Chairman of the Corporation and the Medical Commissioner and placed before them the difficulties and reactions of the Medical Profession created by the State Government's actions and attitude.

He advised the Representatives of the Territorial Branches of the Indian Medical Association present at the meeting that they should arrive at agreements on the various details of the working of the scheme on panel system before advising their colleagues to apply for it; otherwise, there was every possibility of their blaming the Indian Medical Association for letting them down.

(5) *Ban imposed by the Madhya Pradesh Government on Medical men in State employment from joining the Indian Medical Association or continuing as members thereof.*

The Honorary General Secretary informed the house that since the last meeting of the Working Committee when information regarding this matter was first received, the President, Dr. S. C. Sen had gone to Nagpur where he interviewed the State Minister for Health and other officials. He also discussed the matter at a meeting of the Nagpur Branch with other members. While at Nagpur, the President was also able to meet the Governor of State and had some discussions with him as well on this question. He could come away with the assurance that the State Government would re-consider the matter. The State Government also said that they were going to get information on the subject as to what were the conditions obtaining in other States.

On return to Delhi, Dr. Sen had written to Dr. A. D. Mukharji and Dr. Jivraj N. Mehta who were Ministers in their respective States, informing them about the whole matter and asking for their help in getting the ban removed in Madhya Pradesh.

(6) *Resident Appointments Abroad* :

By special permission of the chair, Dr. A. K. Bose (Calcutta) referred to item 23 of the proceedings of the previous meeting regarding Residencies. He wondered about the usefulness of sending our graduates abroad for these appointments and whether they actually benefited from such training. He said that he had noticed a marked fall in the number of applicants for these posts in Bengal.

After some discussion, his suggestion of issuing a questionnaire from the Central Office was accepted. It was decided that a questionnaire be sent to the State (Territorial) Branches and those doctors who had now returned after training, to find out whether this programme was actually to the benefit of the persons sent to these posts.

The Honorary General Secretary pointed out that last year and the year before, letters were sent to individual doctors who had been sent abroad under this programme, to give us information as to whether they were finding the training useful and also their general impression. Some replies had been received and the majority of them were appreciative of the training

5. (a) *Formation of New Local Branches.*

(b) *Revival of Branches.*

(c) *Suspension of Branches.*

(a) The Working Committee approved the formation of the following new local branches :—

Name of Local Branch	State or Territorial Branch	No. of members	Date of formation
1. Bhadrakali	Bengal	5	1-4- 1954
2. Araria	Bihar	7	1-4- 1954
3. Bakhtiarpur	Bihar	—	1-10-1954
4. Roorkee	U. P.	11	1-4- 1954

(b) The revival of the following local branches was duly approved by the Working Committee :—

Name of Local Branch	State or Territorial Branch	No. of members	Date of revival
1. Mussoorie	U. P.	8	1-10-1953
2. Jhansi	U. P.	5	1-10-1953

(c) Since the last meeting of the Working Committee, no branch was declared suspended or defunct.

6. *Consideration of C. F. C. arrears, if any.*

The Honorary General Secretary informed the house that since the last meeting of the Working Committee, no request for writing off C. F. C. arrears had been received at the Central Office from any branch.

7. *Adoption of Audited Accounts* :

(a) (*i*) Central Office ... from 1-4-54 to 30-6-54
(*ii*) Journal Dept. ... from 1-4-54 to 30-6-54

(b) Budget Estimate of "YOUR HEALTH" for the year 1954 (January to September 1954) and the Provisional Budget Estimates for the year 1954-55 (October 1954 to Sept. 1955) of Journal Dept.

(c) Distress Relief Fund.

(a) (*i*) : The audited accounts of the Central Office for the period 1-4-1954 to 30-6-1954 were taken up for consideration.

Dr. B. V. Mulay enquired why the share of the delegation fee received at the Central Office from the Hyderabad Conference amounted to only Rs. 1,150/-. He thought that it could be worthwhile to make enquiries from Hyderabad for clarification. The Honorary General Secretary at this point informed the house that the Reception Committee of the Conference through the Hyderabad State Branch, had sent in a handsome contribution of Rs. 3,000/- towards the "Building Fund". This was acknowledged by loud applause by the house.

The Accounts were then approved after being duly proposed and seconded by Dr. H. N. Shivapuri (Kanpur) and Dr. J. V. Joshi (Hubli) respectively.

(a) (*ii*) : The audited accounts of the Journal Department for the period 1-4-1954 to 30-6-1954 were then taken up for consideration.

Some information was sought on various items by different members. Suitable replies and explanations were given by Dr. R. Sinha, the Hony. Secretary of the Journal.

The Accounts were then approved after being duly proposed and seconded by Dr. C. S. Thakkar (Bombay) and Dr. Sain Das Vohra (Amritsar) respectively.

(b) : The Budget Estimate for 'YOUR HEALTH' for the period January to September 1954 which had not been taken up for consideration at the previous meeting at Jaipur, was now taken up for consideration. Previously, 'YOUR HEALTH's' year was the calendar year, but to fall in line with the Association year, this Budget was for a period of 9 months ending 30th September, 1954.

There was considerable discussion on various items in the Budget and satisfactory replies were given by Dr. R. Sinha. The Honorary General Secretary informed the house that the Government of India through the Ministry of Health, had again sanctioned a sum

of Rs. 5,000/- as a non-recurring grant for 'Your Health'. This came about after representations made by the President, Dr. S. C. Sen, to the Union Health Minister. Regarding this item, however, the Government would probably send a list of names where 5,000 copies of 'YOUR HEALTH' would have to be supplied in lieu of this money. Further instructions are awaited from the Government.

The Budget was approved after being duly proposed by Dr. C. S. Thakkar (Bombay) and seconded by Dr. B. L. Kapur (Ludhiana) respectively.

Accounts of 'YOUR HEALTH'—January to September, 1954 :

The Accounts for 'YOUR HEALTH' for the period from January to September 1954 which were the actual expenses involved as passed under the heading "Budget" were then formally approved. (Proposed by Dr. C. S. Thakkar (Bombay) and seconded by Dr. B. L. Kapur (Ludhiana).

Budget Estimates of the Journal Department, October, 1954 to September, 1955 :

The Budget Estimates of the Journal Department for the ensuing year was taken up for consideration.

Discussion took place on the following items :

1. Tiffin for Staff. 2. Conveyance Allowance. 3. Conveyance Charges. 4. Propaganda and Publicity. 5. Repairs and Renewals. 6. Depreciation. 7. Foreign Travel. 8. House Rent. 9. Telephone charges. 10. Social Entertainment.

Dr. R. Sinha, the Hony. Secretary of the Journal, gave suitable and satisfactory replies to all the questions asked. Some members wanted to delete the item of 'Foreign Travel'. The Honorary General Secretary explained that this was meant for provision for travel expenses of the representatives of the Journal to attend the Medical Editors' Conference which was held annually at the time of the Annual General Assembly of the World Medical Association. Two years ago, the Association did send its Editor to the said Conference, who came back with much experience which was found beneficial to the Journal eventually. He suggested that this item be retained since the Editor or any other representative, if he was at all sent, would be sent only after the approval and sanction of the Working Committee. It might not be spent at all, but it would be wise to retain the provision in the Budget.

The Honorary General Secretary pointed out that the amount budgeted for under the item 'House Rent' also showed an increase. This was because it was expected that more commodious accommodation was likely to be available in a separate portion of the same building in the near future and it was proposed to shift the Journal Department to that portion, if possible.

After some more general discussion, the Budget as presented was approved of with only one item being cut down to Rs. 1,500/- from Rs. 2,000/- under the heading 'Tiffin for staff' (Proposed by Dr. H. N. Shivapuri (Kanpur) and seconded by Dr. Chamanlal M. Mehta (Bombay).

(c) *Distress Relief Fund.*

The Honorary General Secretary informed the house that on account of the devastating floods in U. P., Bihar, Bengal and Assam, applications were received for funds from the Central Office. The money was to be spent under the supervision of the respective State Branches for medical relief which these branches were organising. Since there were only Rs. 2,500/- available in the funds, the President sanctioned a grant of Rs. 500/- each to the State Branches in Assam, Bengal, Bihar and U. P. At the same time, the President issued an Appeal for funds in the Journal. Donations were being received at the Central Office on this account.

The Honorary General Secretary asked the house if there were to be any directions regarding the disbursement of funds. The House approved of the action taken by the President in sending Rs. 500/- each to the 4 State branches mentioned above. The house also decided that out of the funds obtained after the President's appeal, the Distress Relief Fund should be reimbursed to the extent of the amount already spent, *i.e.*, Rs. 2,000/-. The balance of the money might then be used for sanctioning further amounts to the branches concerned after ascertaining their needs according to the discretion of the President.

Dr. P. C. Duarah of Assam at this stage requested for the sanction of Rs. 1,000/- more for relief work by his State Branch. The Committee asked him to send proper accounts of the money which had already been given, along with full details of further requirements which would be considered by the President and action will be taken by him according to his discretion.

8. *Letter No. 2580-EM/6-8-1954 of the General Secretary, Federal Council of the British Medical Association in Australia, Sydney (New South Wales) regarding Australian Medical Congress (B.M.A.) Ninth Session and Invitation of the Council to nominate a Representative of the Indian Medical Association to attend it from 19th August to 27th August, 1955.*

It was decided to ask the State Branches to propose names for consideration for the final nominations. The expenses of the nominee were to be borne by himself.

9. *Rules of various Provincial/State Branches for approval (1) Andhra, (2) Uttar Pradesh, (3) Assam.*

Since the Sub-Committee had not been able to scrutinise the Rules of the said branches, the house decided that the Honorary General Secretary, in consultation with the other members of the Sub-Committee, should examine the matter and only report to the Working Committee if there be any discrepancy found.

10. *Applications for Research Fellowships* :

The Honorary General Secretary informed that 8 applications had been received for the Research Fellowships.

On the suggestion of Dr. A. K. Bose (Calcutta), a Sub-Committee was formed consisting of the following with powers to co-opt any specialists :—

1. Dr. A. K. Bose (Calcutta)—Convener, 2. Dr. S. W. Hardikar (Hyderabad), 3. Dr. B. V. Mulay (Sholapur),

for going into the matter and making the recommendations. It was the desire of the house that the Sub-Committee make its recommendations before the end of the session of the Committee.

The Sub-Committee after a preliminary examination of the applications explained that there were some difficulty in coming to the final conclusion, since some essential details were lacking. It was then decided that the Sub-Committee should finish its work and report at the next meeting of the Working Committee.

11. *Election of President and 3 Vice-Presidents of the Indian Medical Association for the year 1954-55.*

The scrutineers, after finishing the work of counting the votes and scrutinising the ballot papers, submitted the results to the Chairman. The Chairman then announced the results as follows :—

PRESIDENT :

Name of Candidate	*No. of votes secured.*
1. Dr. S. C. Sen (Delhi)	... 3878*
2. Dr. R. V. Sathe (Bombay) ...	... 545
3. Dr. S. W. Hardikar (Hyderabad)	... 345
4. Dr. S. N. Mathur (Lucknow) ...	... 223
5. Dr. S. S. Misra (Lucknow) ...	... 123
6. Dr. Rajeshwar Prasad (Arrah) ...	... 68
7. Dr. K. P. Bagchi (Agra)	... 64
8. Dr. P. D. Khanolkar (Belgaum) ...	... 41
9. Dr. K. N. Misra (Bhubaneswar) ...	... 24

* Declared elected.

VICE-PRESIDENTS :

Name of Candidate	*No. of votes secured.*
1. Dr. C. O. Karunakaran (Trivandrum)	1293*
2. Dr. B. K. Vinchure (Nagpur)	1034*
3. Dr. S. B. Anklesaria (Ahmedabad)	725*
4. Dr. G. V. Joshi (Hubli)	643
5. Dr. J. C. Patel (Bombay)	586
6. Dr. G. S. Melkote (Hyderabad-Dn.)	554
7. Dr. A. K. Bose (Calcutta)	502
8. Dr. Panchanan Chatterjee (Calcutta)	429
9. Dr. M. J. Shah (Bombay)	383
10. Dr. A. K. Roy Choudhury (Calcutta)	337
11. Dr. D. Ram (Patna)	332
12. Dr. M. V. Krishna Rao (Visakhapatnam)	330
13. Dr. P. Veeriah Choudhary (Guntur)	323
14. Dr. (Miss) S. Chaudhuri (Delhi)	317
15. Dr. K. N. Waghray (Hyderabad)	315
16. Dr. A. G. Leelakrishnan (Coimbatore)	306
17. Dr. R. Kalamegham (Trichy)	294
18. Dr. P. A. S. Raghavan (Trichy)	290
19. Dr. (Lt.-Col.) T. S. Shastry (Madras)	274
20. Dr. K. K. Sen Gupta (Calcutta)	254
21. Dr. Mohan Lal Aggarwal (Aligarh)	201
22. Dr. N. R. Apte (Satara)	200
23. Dr. (Lt. Col.) K. B. Ahmed Baksh (Indore)	191
24. Dr (Capt.) N. N. Ghosh (Dhanbad)	183
25. Dr. S. C Sen (Lucknow)	180
26. Dr. (Major) K. Vullakhi (Tenali)	175
27. Dr. S. V. Oak (Bombay)	170
28. Dr. Ram Rakha (Jullundur)	153
29. Dr. Rajeswar Prasad (Arrah)	141
30. Dr. Manohar Lal Chopra (Amritsar)	123
31. Dr. S. K. Menon (Jaipur)	109
32. Dr. P. L. Deshmukh (Poona)	108
33. Dr. R. V. Mhaskar (Amalner)	105
34. Dr. B. N. Sinha (Lucknow)	104
35. Dr. S. C. Banerjee (Saharanpur)	101
36. Dr. M. P. Mehroy (Sitapur)	98
37. Dr. Kali Pada Mitra (Monghyr)	80
38. Dr. K. N. Lahiri (Gorakhpur)	78
39. Dr. B. N. Banerjee (Laheriasarai)	58
40. Dr. Jibanratan Dhar (Bongaon)	42
41. Dr. M. D. Jadhav (Kolhapur)	41
42. Dr. M. A. Hai (Patna)	34
43. Dr. I. N. Saxena (Fatehgarh)	34
44. Dr. (Mrs.) Chhotay Lal (Farrukhbad)	30
45. Dr. G. C. Pattanayak (Behrampore)	27
46. Dr. S. R. Mitter (Ambala City)	24
47. Dr. V. N. Ranade (Kolhapur)	10
48. Dr. P. P. Bhavnagari (Deolali)	8
49. Dr. G. S. Saxena (Banda)	8
Total Ballot Papers Received	309
Valid 276	
Invalid 33	309

The House then declared the following as duly elected for the next year :—

President—Dr. S. C. Sen (Delhi).

Vice-Presidents—1. Dr. C. O. Karunakaran (Trivandrum) —Senior.
2. Dr. B. K. Vinchure (Nagpur).
3. Dr. S. B. Anklesaria (Ahmedabad).

12. *Letter dated 14-9-1954 of the British Medical Association regarding British Commonwealth Medical Conference in June 1955 in Toronto, Canada. Delegates and Observers of the Indian Medical Association invited.*

The Honorary General Secretary read out the relevant letter received from the Secretary of the British Medical Association. Action to be taken similar to decision taken in item No. 8.

* Declared elected.

13. *Draft Annual Report of the Indian Medical Association for the year 1953-54* :

The Honorary General Secretary said that this was merely a draft report which was usually presented at the meeting of the Working Committee at the time of the Conference, but to save time it was being presented now.

The members after going through the draft approved of the Report with the suggestion that some portions needed re-writing which the Honorary General Secretary was asked to carry out.

14. *Letter No. 3246/53-54 dated 30-9-54 of the Hony. Secretary, Journal of the I. M. A. reg. mailing of Journals to members abroad and proposal for an excess charge of Rs. 2/- per annum from such members on account of extra postage.*

The Journal Department had pointed out that as a good number of members of the Association were now abroad for considerable periods for residency training etc., this involved some increase in the expenses towards postage in sending copies of the Journal out to them. It was, therefore, the request of the Journal Department that a sum of Rs. 2/- per head per year be charged from the members concerned to cover the extra amount of postage.

On a question being asked, Dr. R. Sinha, the Hony. Secretary of the Journal, informed the house that about 200 members were abroad at any one time on the average, out of which about 100 or a little over were post-graduate students undergoing training abroad for periods varying from 1-3 years.

Some discussion followed and majority of the members were not in favour of making any enhanced charges. It was therefore decided to maintain the status quo.

15. *Consideration of letter of the Bengal Provincial Branch dated 1-10-54 re* :
(1) *Amendment of Indian Medical Council Act.*
(2) *Re-opening of D.T.M. Course at the School of Tropical Medicine, Calcutta.*

(1) Dr. Sukomal Sen (Calcutta) read out the recommendations of the Indian Medical Council regarding its own reconstitution. He had obtained this information from the All-India Medical Licentiates' Association. He also read out the recommendations made by the Indian Medical Association about two years ago.

Dr. H. N. Shivapuri (Kanpur) suggested that the University teachers who have reserved representation to the Council should not be allowed to stand from the general constituency.

After some discussion the house decided that we should send a copy of our original recommendations once again the Government for its consideration.

At this stage, Dr. Chamanlal M. Mehta (Bombay) informed the house that the Government of India was thinking of setting up a Post-graduate Board. Dr. B. V. Mulay (Sholapur) said that this Board could only be set up after a Bill was brought in the Parliament and the Government could not do it so quickly and that if they got reliable information a special emergency meeting of the Working Committee should be held, if found necessary.

(2) The house decided to reiterate its Hyderabad resolution in this meeting which read as follows :—

"This Conference reiterates its demand for amendment of the Indian Medical Council Act of 1933 so that the Medical licentiates are brought under the purview of the Act in the same schedule with other recognised medical qualifications of the country and a common register be maintaied."

It was also decided :—
(1) That the relevant facts about the D.T.M. course should be obtained and widely circulated to all concerned;
(2) To publish these facts in the Journal;
(3) To request the Editor to publish a suitable Editorial in the Journal.

16. *Any other business with the permission of the President.*

(1) Letter No. SMN:CON. 54 dated 4th October, 1954 from the Executive Editor, Surgical and Medical News, Bombay, requesting for a list of Branches of the Indian Medical Association and their office bearers for their quarterly Journal of Industrial Medicine and Surgery.

The Central office was directed to find out details about the "Surgical and Medical News" whether it was a proprietory publication or a business publication. If it was a business firm, the usual charges were to be made for supplying the list asked for. If it was a proprietory Journal then the Honorary General Secretary could use his discretion.

(2) Resolution passed by the Travancore-Cochin Provincial Medical Council on the proposal of Dr. M. A. Hamied for the formation of the Medical Pharmaceutical Council.

The Resolution and the covering letter were read out and the Committee thought that it could be taken into consideration when the matter for the formation of a Medical Pharmaceutical Council came up again before the Working Committee.

(3) Amendment to Rules of the I.M.A. (No. 55) as suggested by the Council of the Madras State Branch, I.M.A.

Referred to the Central Council.

(4) Interpretation of Rule 35 of the I.M.A.

The Honorary General Secretary said that some members had brought to his notice about the ambiguity regarding the representation on the Working Committee re. the membership strength of branches and corresponding representation on the Working Committee.

The House decided that the Rule was quite clear and there should not arise any difficulty regarding the representation on the Working Committee. If any branch at any time wanted a clarification, it could then be given.

(5) Letter dated 8-10-54 from Dr. Mohan Singh Sethi, Physician and Surgeon, Srinagar, giving a suggestion to attach Srinagar Branch direct to the Central Headquarters instead of being under the jurisdiction of the Punjab State Branch.

The letter under reference was considered.

Dr. Sain Das Vohra of the Punjab State Branch informed the house that the Srinagar Branch was now again active. The Committee decided that in principle, there could be no objection in having a State Branch in Kashmir, or a Direct Branch at Srinagar. However, the Honorary General Secretary was authorized to contact the Hony. Secretaries of the Srinagar Branch and the Punjab State Branch to assess the position.

(6) Letters from Dr. Chhabil Das (Ludhiana) regarding extension of the life of the Arya Medical School, Ludhiana, in which fresh admissions had recently started inspite of the State Government's assurance previously that this School was no longer to be continued.

The letters were read out and considered by the house.

Dr. B. L. Kapur (Ludhiana) pointed out that the biggest point to which the State Government struck was that since such a School was existing in Mysore State, why should not there be one in the Punjab also.

The Working Committee recorded its protest against the continuation and re-allowing fresh admissions of students in the medical school inspite of the declared policy of the Union Government and the State Government. It reiterated its previous resolution on the subject.

(7) Invitation for the All-India Medical Conference to be held in December, 1955.

The Honorary General Secretary informed the house that until then, only one invitation had been received for the Conference from the Jullundur Branch for December, 1955.

Consideration of this matter was postponed till the next meeting of the Central Council.

(8) Consideration of the subject of the working conditions of Assistant Medical Officers in Tea Gardens.

The Honorary General Secretary gave a short summary of the correspondence with the Central Office.

The House was of the opinion that since the subject needed proper scrutiny and going into the details, it was preferable to have a Sub-Committee to consider this matter and make its recommendations. The Sub-Committee was formed with the following:—

1. Hony. Secretary, Bengal State Branch, I.M.A. (Calcutta)—Convener. 2. Hony. Secretary, Assam State Branch, I.M.A. (Gauhati). 3. Dr. K. K. Sen Gupta (Calcutta).

The Working Committee directed that any expenses incurred in travelling etc. in connection with the work of this Sub-Committee were to be equally shared by the two State Branches concerned.

(9) Dr. N. R. Apte's correspondence and Legal Notice re. election of 3 Vice-Presidents.

The Honorary General Secretary informed the house about the legal notice which had been received on behalf of Dr. N. R. Apte of Satara from his Lawyer. He then read out the letter and the other correspondence which Dr. Apte had had with the Central Office and Dr. D. V. Venkappa, the Acting President. This legal notice, the Honorary General Secretary informed the house, had been received on the second day of the meeting after mid-day and this was the first opportunity which he could take of informing the house about it.

The house took the view that it had already approved and ratified the action of the President and the Central Office with regard to the election of 3 Vice-Presidents and that the result of the elections had been duly declared the previous day after proper scrutiny of the ballot papers and proper counting of the votes obtained by the candidates. The house also noted that there had been no other objections regarding the procedure adopted from either any State, Territorial or Local Branch or from any other individual member.

The house then decided that the said Legal Notice on behalf of Dr. N. R. Apte might be handed over to the Honorary Legal Adviser of the Association for his attention.

(10) Dates of the Working Committee and the Central Council meetings to be held at Lucknow in December 1954, during the next All-India Medical Conference.

The house decided to have the Central Council meeting on the 24th and 25th of December, 1954, provided the Conference dates were arranged from the 26th onward. The second meeting of the Central Council was to be held on the last day of the Conference. It was also decided that only one day needed to be set apart for the Working Committee and that was to be the 23rd of December, 1954. If found necessary, the Honorary General Secretary could also begin the meeting of the Working Committee on the 22nd December, 1954, but the majority's view was that one day should be enough for the meeting of the Working Committee.

(11) Resolutions regarding the Condensed course for L.M.P.

The following resolutions moved by Dr. D. K. Dayalu on behalf of Mysore Medical Association and duly

seconded by Dr. R. A. Bhagwat (Indore) were next taken up and unanimously passed by the house :—

1. To request the Mysore University to reduce the period of the condensed course for L.M.P. from 3½ to 2 years as is being observed in other Universities of India.
2. To request for reservation of a liberal number of seats for Licentiates who desire to take advantage of such a Course.
3. To request the Mysore Government to upgrade the Medical School into a College.
4. To reiterate the resolution passed by the Working Committee that the condensed courses be continued till such time as there is a demand for it.

Acknowledgments :

The following resolutions were proposed from the chair and passed unanimously :—

(1) This meeting of the Working Committee of the Indian Medical Association places on record its deep appreciation and thanks for the hospitality and courtesy accorded to its members on the occasion of the meeting held at Bangalore on 21st and 22nd October, 1954 by :—
   1. The President and members of the Bangalore Branch of the Indian Medical Association.
   2. The President and members of the Mysore State Branch of the Indian Medical Association.

(2) The Working Committee of the Indian Medical Association offers its grateful thanks to the authorities of the Victoria Hospital, Bangalore, for permission to hold the meeting of the Working Committee in the premises of their hospital at Bangalore, and for the courtesy extended to the members.

The meeting then concluded with a hearty vote of thanks to the chair.

D. V. VENKAPPA,
Senior Vice-President,
Chairman.

A. P. MITTRA,
Honorary General Secretary.
VED PRAKASH,
Hony. Assistant Secretary.

BRANCH NOTES

MORVI BRANCH—A meeting of the branch was held on 12-9-54 with Dr. J. M. Parekh in the chair. Dr. D. C. Oza read a paper on Sex Biology.

* * * * *

The annual meeting of the branch was held on 26-9-54. Dr. D. C. Oza presided. Office bearers for 1954-55 were elected with Dr. J. G. Parekh as president and Dr. S. L. Munshi as hony. secretary.

MUZAFFARNAGAR BRANCH—A general meeting of the branch was held on 10-10-54 and office bearers were elected with Dr. V. Dutta as president and Dr. D. R. Sharma as general secretary. The branch held 12 meetings during the last year, including clinical meetings.

NABADWIP BRANCH—A meeting of the branch was held on 1-10-54. Office bearers for 1954-55 were elected with Dr. M. L. Kundu as president and Dr. S. N. Mukharjee as secretary.

NAGAPATTINUM BRANCH—A meeting of the branch was held on 31-7-54 with Dr. P. K. Velayudham in the chair. Fourteen members were present. Dr. M. S. Srinivasan gave a talk on "Amoebiasis in General Practice."

NANDED BRANCH—An inter District I.M.A. Meeting was held on 23-7-54. Dr. L. R. Deshpande, Civil Surgeon, Nizamabad was invited along with other I.M.A. members of Nizamabad Branch. Apart from the Taluka Medical Officers, many general practitioners of Nizamabad were present.

The Meeting was presided by Dr. S. N. Mathur, the Civil Surgeon, Nanded. Dr. S. N. Mathur showed many interesting cases among which were Cretin, Congenital Hairy Naevus of the Buttock, a case of Fat Embolism from the Fracture producing Paralytic Ileus, Leprosy Infiltration of the Lungs with Positive Lepra Bacilli in the Sputum. A case of Phlebo Thrombosis of the Calf Veins. Dr. L. R. Deshpande, spoke on Emergencies in Obstetric and Gynaecology.

NIZAMABAD BRANCH—An Inter-District Clinical Meeting of I. M. A. branches Nizamabad and Nanded, was held on 29-7-54 with Dr. L. R. Deshpande in chair.

Dr. S. N. Mathur, Civil Surgeon, Nanded spoke on "Asthma and its Treatment".

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A clinical meeting of the branch was held on 26-9-54 with Dr. L. R. Deshpande in the chair. He spoke on "Minor Maladies and their Treatment".

* * * * *

A meeting of the branch was held on 10-10-54 with Dr. L. R. Deshpande in the chair. The meeting condoled the tragic death of Dr. R. Rao and Dr. J. Rao in a Railway accident. Office bearers were elected with Dr. L. R. Deshpande as president, Dr. L. R. Lingaw as hony. secretary and Dr. V. Prahlad as jt. secretary.

PORBANDAR BRANCH—The monthly clinical meeting of the branch was held on 29-8-54. Sixteen members were present. Dr. H. H. Chavda presided. Dr. H. H. Chavda spoke on Peptic Ulcer and the medical and surgical treatment of it.

A film "They do Come Back" (a film on tuberculosis) was shown to the members.

A few films of comedy (non-medical) of Charley Chaplain were also shown.

* * * * *

The annual meeting of the branch was held on 19-9-54 with Dr. H. H. Chavda in the chair. Sixteen members were present. The meeting condoled the death of Shri D. C. Dave, father of Dr. R. Dave, an associate member of the branch. The meeting appreciated the steps taken by the Government of Saurashtra for raising the Bhaosinhji Hospital to the 1st class statnre. Office bearers were elected with Dr. H. H. Chavda as president and Dr. K. W. Waghela as hony. secretary. The account was approved.

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The annual report of the branch for the year 1953-54 shows that 13 meetings were held during the year, including clinical meetings.

PUNJAB STATE BRANCH—In a meeting held on 5-9-54 under the chairmanship of Dr. Sain Das Vohra, Dr. A. M. Deva was elected the president of the branch for 1954-55.

RAJPUTANA PROVINCIAL BRANCH—A meeting of the Working Committee of the branch was held on 24-7-54 with Dr. S. K. Menon in the chair. The branch requested the Government of Rajasthan to proceed with the implementation of the Rajasthan Medical Council Act early and to take steps to abolish quackery. It also requested the Government to enforce the drugs act and to consult the Indian Medical Association regarding all schemes of health to be introduced. The Government was also requested to take immediate steps to make the hospitals at Bikaner and Jodhpur adequately staffed for recognition of the University of Rajputana for post-graduate training as House Surgeons and House Physicians. Office bearers were elected with Dr. R. E. Heilig as president and Dr. T. S. Mathur as Hony. Provincial Secretary.

RANCHI BRANCH—The branch celebrated the Independence Day with a dinner. It was a lively function.

SALEM DISTRICT BRANCH—A meeting of the branch was held on 25-7-54 with Dr. S. K. Rao in the chair. Dr. N. Vaidyanathan of Stanley Medical College spoke on "Nephritis and Nephrosis".

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A meeting was held on 29-8-54 with Dr. S. K. Rao in the chair. Dr. S. Gurubatham spoke on Conjunctivitis. The meeting condoled the death of Dr. K. Ragunathan.

* * * * *

A meeting was held on 25-9-54 with Dr. S. K. Rao in the chair. Dr. K. R. Hariharan spoke on "Macrocytic Anaemia of Infancy and Childhood."

SHILLONG BRANCH—A meeting of the branch was held on 1-7-54. Dr. Gupta, Professor of Obstetrics and Gynaecology, Assam Medical College, spoke on "Haemorrhages in the later months of Pregnancy."

* * * * *

Another meeting was held on 29-7-54. Discussion was held on holding the Annual Medical Conference at Shillong. "Cystic Disease of the Lungs" was presented by Dr. D. S. Guha and Dr. R. S. Syiem, each discussing one very complicated case.

* * * * *

A meeting of the branch was held on 26-8-54. After the routine business was over, a symposium on "Dyspepsia, its diagnosis from history, physical examination and treatment" was introduced. Dr. S. Bhattacharya opened it and Drs. R. A. Hughes, A. N. Hazarika, I. B. Roy, B. K. Padmapati, S. S. Guha, S. C. Deb and S. Choudhury participated in it.

SHOLAPUR BRANCH—The annual meeting of the branch was held on 29-10-54. Office bearers were elected with Dr. M. A. Prabhu as president and Dr. H. N. Veidya as hony. secretary. The annual report of the branch for the year 1953-54 shows that 11 meetings were held during the year. The branch is considering the construction of a building of its own. 1454 students were examined by the members. The branch is conducting a full dispensary at Ule village, 10 miles from the city.

SOUTH ARCOT BRANCH—The annual meeting of the branch was held on 18-9-54 with P. Vaidyanathan in the chair. Thirty-two members were present. After the routine business office bearers were elected with Dr. V. Maruthi Rao as president and Dr. A. M. Khan as secretary. A Committee was formed to raise necessary funds for a building of the Association. Dr. N. Vaidyanathan spoke on "Infective Hospitals". Dr. V. Maruthi Rao gave a talk on "Middle Ear Infection".

SURAT BRANCH—The report of the branch for 1953-54 shows that 5 clinical meetings were held during the year. Office bearers for 1954-55 were elected with Dr. M. K. Dixit as president and Dr. K. H. Haradhwala as secretary.

TANJORE DISTRICT BRANCH—The annual conference of the branch was held on 9-5-54. Dr. Jacob Chandy of Vellore spoke on "Low Back Pain". The official year of the branch was changed to "October to September" instead of "April to March". Office bearers for 1954-55 were elected with Dr. N. R. Subramaniam as president and Dr. S. Narayanan as secretary. Dr. P. K. Duraiswamy gave an interesting talk on "The Experimental Production of Congenital Defects in Chicken" by the injection of Insulin, Cortisone and other drugs into the eggs.

TENALI BRANCH—A meeting of the branch was held on 28-8-54 with Major K. Vullaki in the chair. Dr. B. Pullaiah read his essay on the Use and Abuse of Antibiotic which won him the Subbarao Memorial prize. A symposium of "Children's Ailments and Treatment" was conducted. Six doctors participated in it.

* * * * *

The annual meeting of the branch was held on 19-9-54. The annual report was adopted. Dr. P. Thirumalarao spoke on "Baby Care and Some Important Aspects of Pediatric Practice".

TIRUCHY BRANCH—A meeting of the branch was held on 21-8-54 with Dr. T. V. Srinivasan in the chair. Fifty members were present. Dr. P. K. Kalyanaraman of Coimbatore spoke on "Rogamalika" which was highly appreciated by the members.

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The members were at home to Rajkumari Amrit Kaur, Minister of Health, Government of India, on 4-8-54. An address was presented in which her services were appreciated. An appeal was made to her regarding a grant from the Centre for the library of the Association. She promised to see if she could get books from some of the World Organisations as gifts to the library.

* * * * *

A meeting of the branch was held on 24-7-54 with Dr. T. V. Srinivasan in the chair. The president extended a hearty welcome to all on the occasion of the 1st monthly meeting of the Association in its own buildings. Dr. V. Iravatham presented a case report on Amoebiasis with Pleural Effusion and Dr. T. V. Srinivasan on Renal Glycosuria. Dr. N. C. Subramaniam gave a talk on "Acute Infective Hepatitis."

TIRUNELVELI DISTRICT BRANCH—A meeting of the branch was held on 26-7-54. Twenty-one members were present. Dr. K. Rama Ayyar spoke on Inguinal Hernia.

A meeting was held on 29-8-54. Twenty-one members were present. Dr. L. Mahadevan presided.

VIJAYWADA BRANCH—The XV anniversary of the branch was celebrated on 26-9-54. Election of office bearers took place and the ont-going office-bearers were re-elected. A symposium on Hypertension was opened by Dr. B. V. Ranga Rao. Dr. D. J. Reddy, Dr. K. S. Sambasiva and Dr. N. Sarveswara participated in it. Dr. P. V. Subba Rao demonstrated a case of a child with a history of Polyuria suspected to be Diabetes Insipidus. Dr. P. V. Rao spoke on Surgical Emergency of Lower Abdomen and Pelvis in the female with particular reference to ruptured ectopic gestation. Dr. P. S. Giri spoke about his haemolytic experiences after blood transfusion in a series of cases due to transfusion incompatibilities.

WARANGAL BRANCH—The annual meeting of the branch was held on 10-10-54. Dr. B. D. Rao presided. Thirty members were present. At the outset the meeting condoled the death of Dr. S. R. Rao, Director of Health, Government of Hyderabad and of Dr. J. Rao, Medical Officer, Manthim, in a railway accident. The annual report and the financial statement were adopted. Office-bearers were elected with Dr. B. Dayanand Rao as president and Dr. B. Venkat Rao as Secretary and Dr. A. T. Rao as jt. secretary. A clinical meeting was also held with Dr. S. K. Jattar in the Chair. Dr. K. K. Narayanachary Ulu read a paper on Dysenteries. The branch conducted a series of lectures on Health, Hygiene and First Aid for the benefit of school teachers in co-operation with Government of Hyderabad. Certificates were awarded to 87 trainees.

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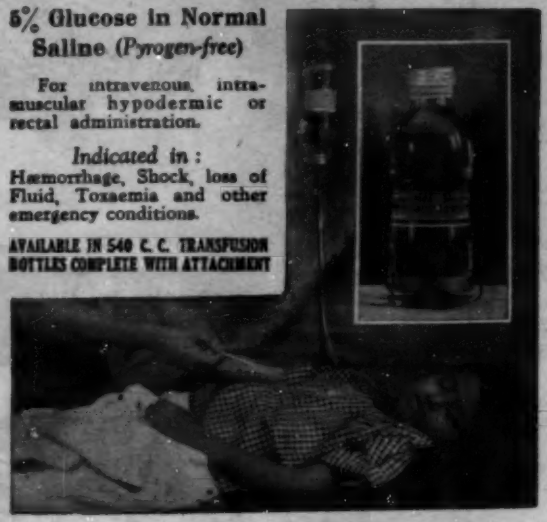

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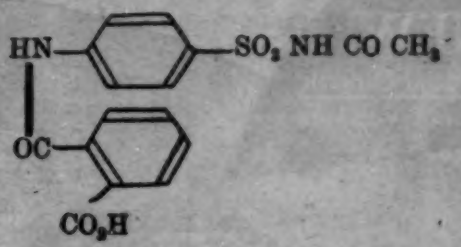

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Readers who happen to move out from their old addresses to new addresses should promptly inform the Journal Office as also their local branch office of the I.M.A. about the changes of address intimating both the new and old addresses. Failing these, intimations reaching the Journal Office much later, it may not be possible to supply such readers with the missing copies of the Journals in their respective files.

Readers are all requested to please check up the printing of the names and addresses in the wrappers of their own copy of Journals. Any discrepancy in the spelling or insufficiency about the postal address should be promptly intimated to the Hony. Secretary of the Journal of the I.M.A. at 23, Samavaya Mansions, Corporation Place, Calcutta 13.

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Editor—Dr. P. K. Guha, M.B., M.R.C.S. (Eng.), D.O.M.S. (Lond.)

Regd. No. C 1890 *This Issue Exceeds 19,000 Copies* December 16, 1954

Journal of the Indian Medical Association

FORTNIGHTLY FROM OCTOBER 1954

We have much pleasure to announce that two issues of the Journal of the Indian Medical Association are being published every month, one on the 1st and the other on the 16th, with effect from October, 1954.

As General Practitioners form the bulk of the members of the Indian Medical Association, it has been decided to publish in every ordinary issue of the fortnightly, during its first year, two articles, specially written for them by experts, under a new section named "Refresher Course".

The text of each fortnightly issue would consist of at least 32 pages.

In Special Numbers and whenever occasion arises, the reading matter would be increased as necessary.

As the membership of the Indian Medical Association has increased from October 1954, over 19,000 copies of each issue are being published from October.

The rate of subscription for the Journal has been enhanced from Rs. 18/- to Rs. 24/- per annum from October, 1954. (Foreign—Rs. 30/- post free). Bonafide medical students may, however, subscribe this Journal at a concession rate of Rs. 12/- only per annum. Members of the Association will be receiving two issues of the Journal every month, without any extra charge.

Advertisers of medical products and appliances as well as of other articles which are of use to the members of the medical profession, may avail of the opportunity of advertising their products and articles to the medical profession of India by booking space in the fortnightly issue. For further particulars in this connection, the Hony. Secretary of the Journal of the Indian Medical Association may please be contacted.

P K Guha

Hony. Editor

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